



**KENWOOD®**  
HI/FI STEREO COMPONENTS

# SERVICE MANUAL

**KR-730**  
**KR-750**

An item of adjustment is written in three languages — English, French and German.  
*Un article sur les réglages est écrit en trois langues, Anglais, Français et Allemand.*  
Ein Artikel der Abgleich wird auf drei Sprachen. Englische, Freanösisch und Deutsch geschrieben.

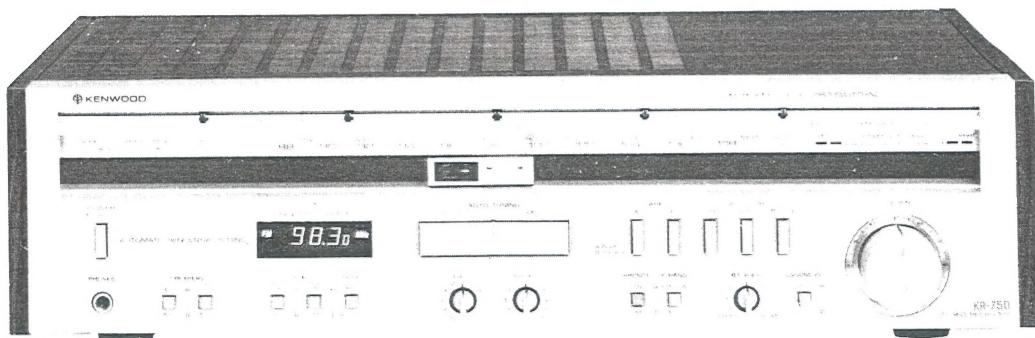


Photo: KR-750

## STEREO RECEIVER

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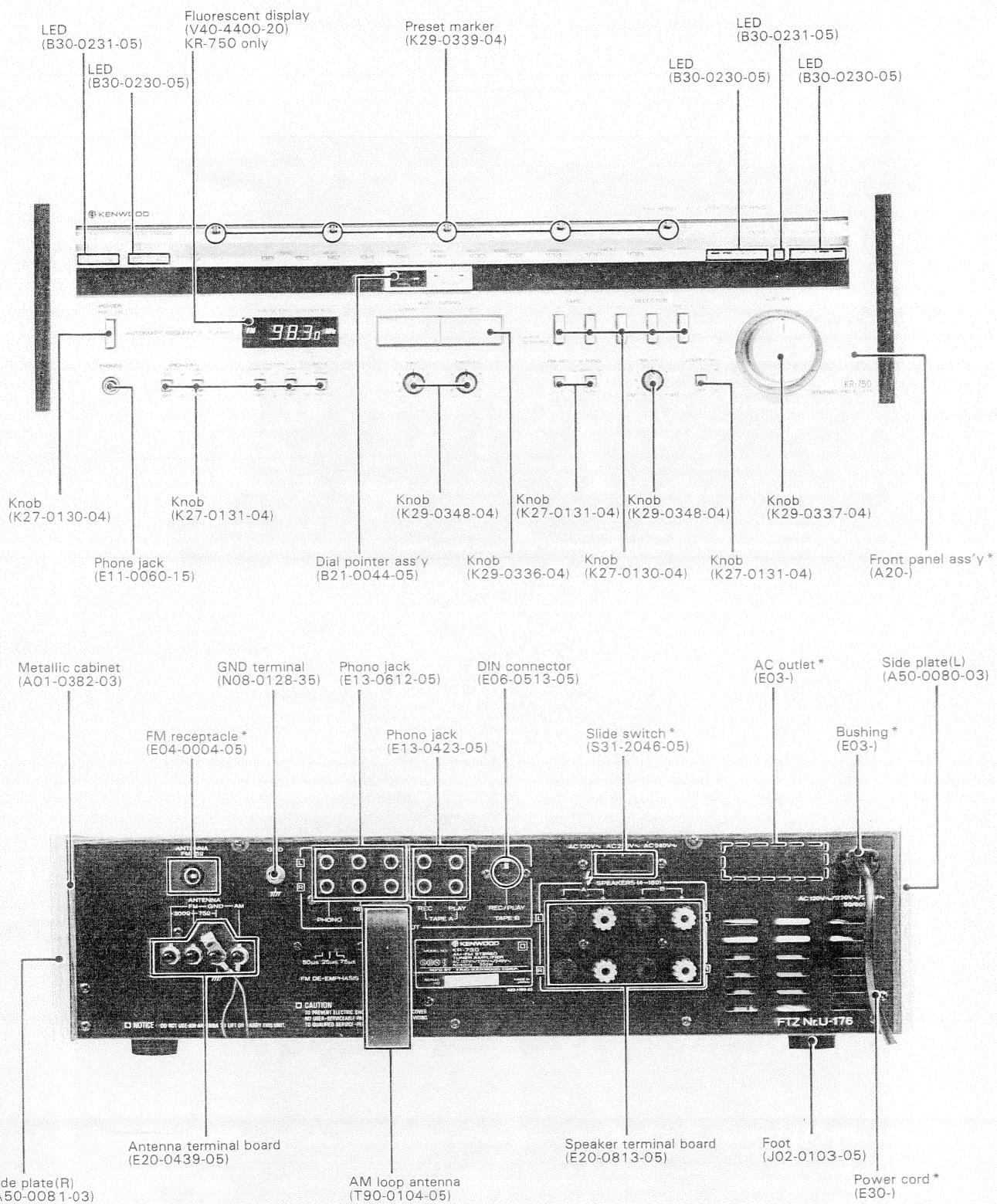
**Note:**

Component and circuitry are subject to modification to insure best operation under differing local conditions. This manual is based on, the U.S. (K) standard, and provides information on regional circuit modification through use of alternate schematic diagrams, and information on regional component variations through use of parts list.

Region	Code
U.S.A. ....	K
Canada .....	P
PX (Far East) .....	U
PX (Europe) .....	UE
Australia .....	X
Europe and Scandinavia .....	E
England .....	T
South Africa .....	S
Other Areas .....	M
Audio Club .....	H
U.S.A. (KR-755) .....	K

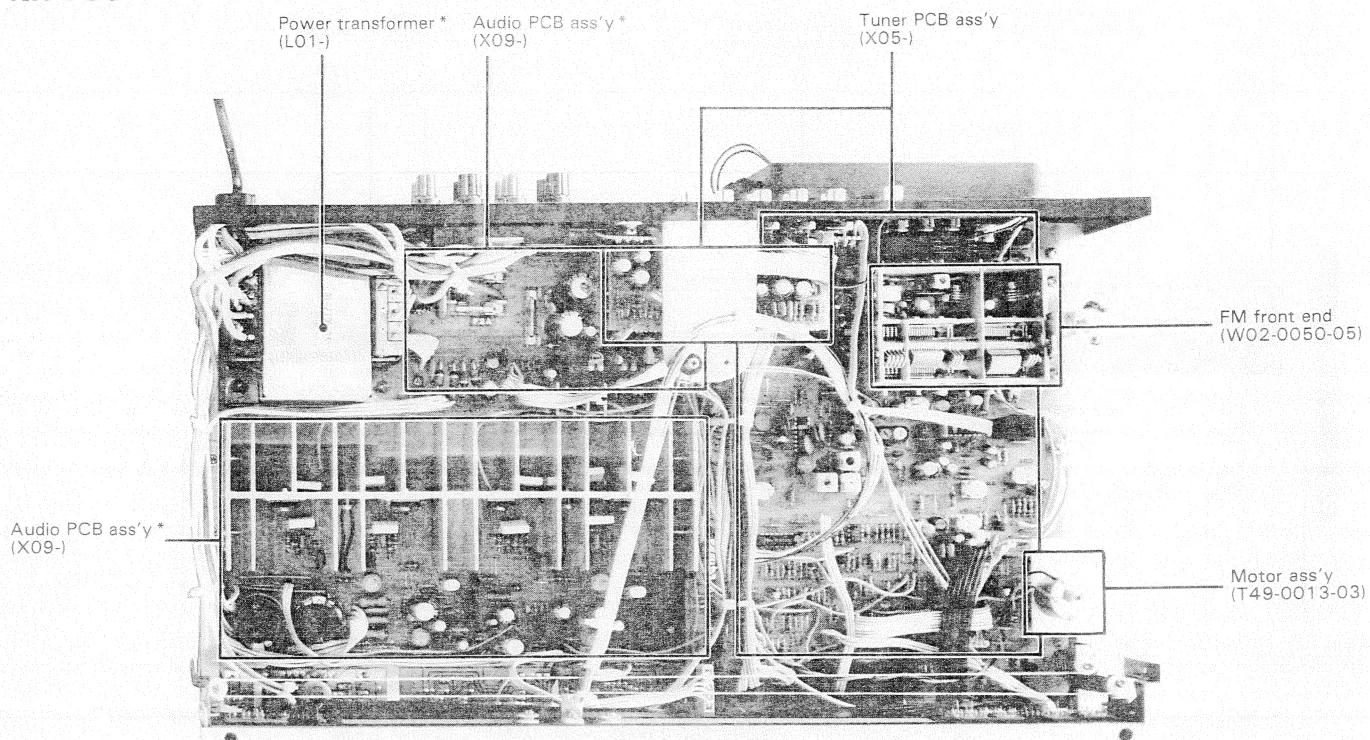
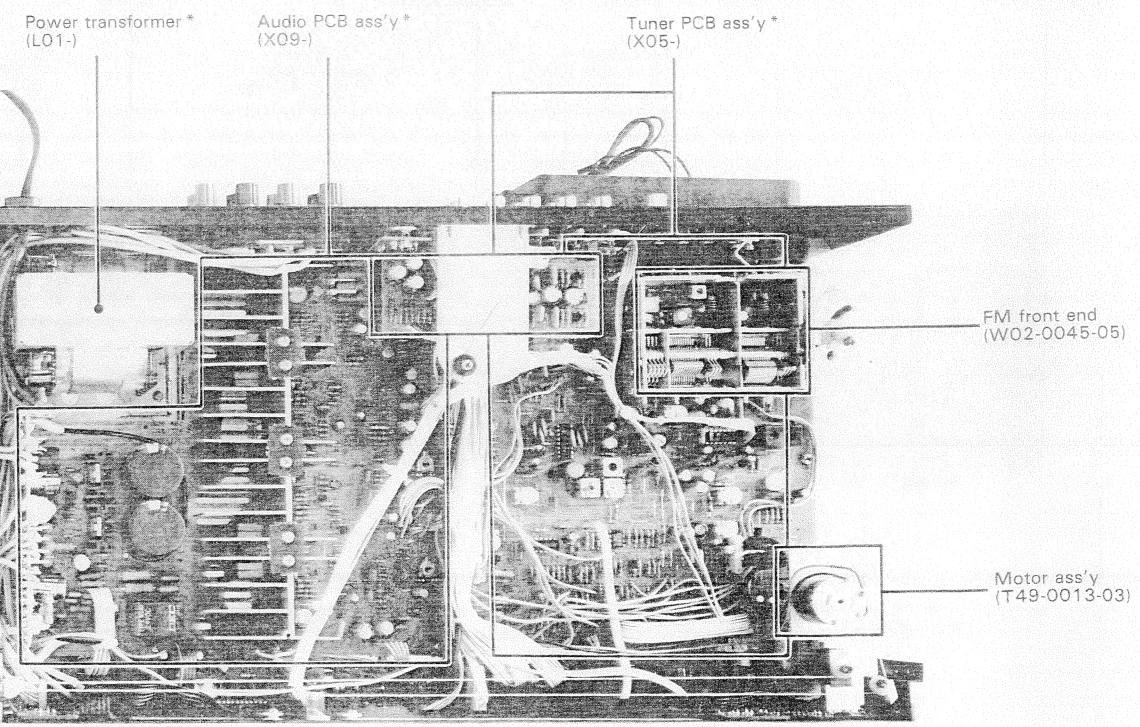
There is no plan for producing units of S type.

## EXTERNAL VIEW



Front view is KR-750  
Rear view is KR-730  
both E type.

\* Refer to Parts List on page 29 or 31.

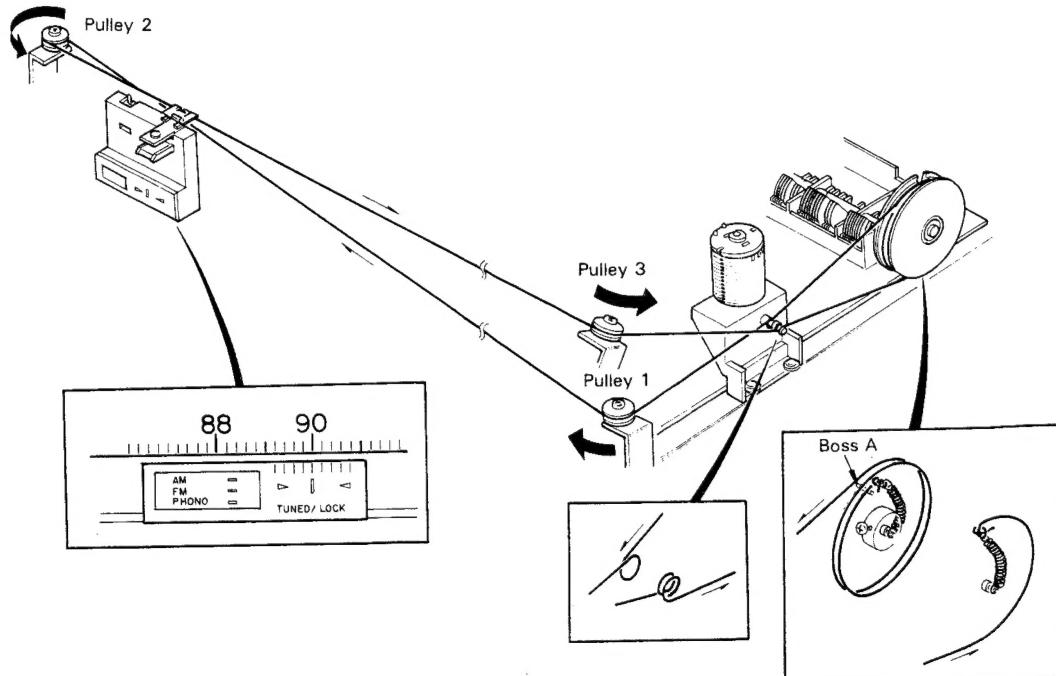
**INTERNAL VIEW****KR-730****KR-750**

\* Refer to Parts List on page 29 or 31.

# DIAL CORD STRINGING / DISASSEMBLY FOR REPAIR

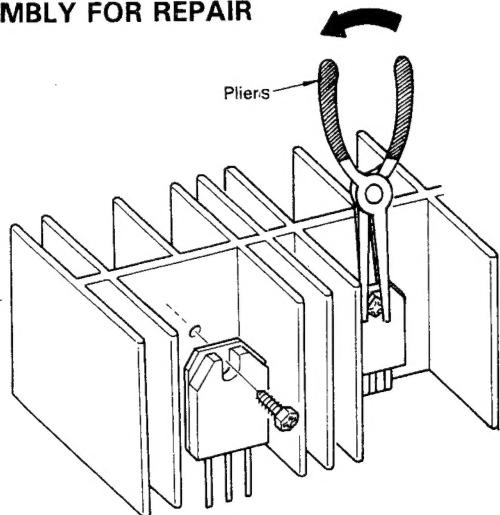
## DIAL CORD STRINGING

1. Tie the end of the dial cord to the dial spring and hook the dial spring to boss A.
2. Set the dial pulley as illustrated.
3. Wind the dial cord to the dial pulley twice and wind around the motor's drive shaft once starting from the upper side.
4. Dress the dial cord to pulley 1 through 3 in the direction of the arrow.
5. Wind the dial cord to the motor's drive shaft twice starting from the lower side.



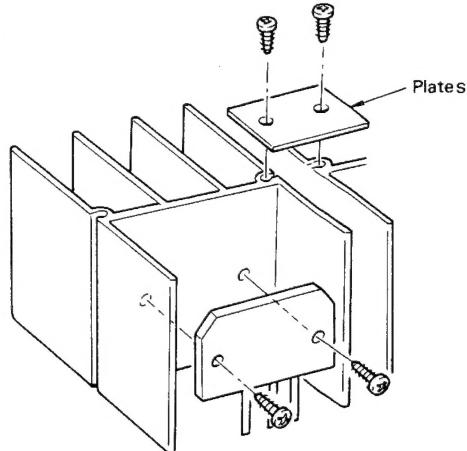
## DISASSEMBLY FOR REPAIR

KR-730



1. Unsolder the leads of the transistor.
2. Loosen the screw (hex-head) for the transistor with pliers.

KR-750

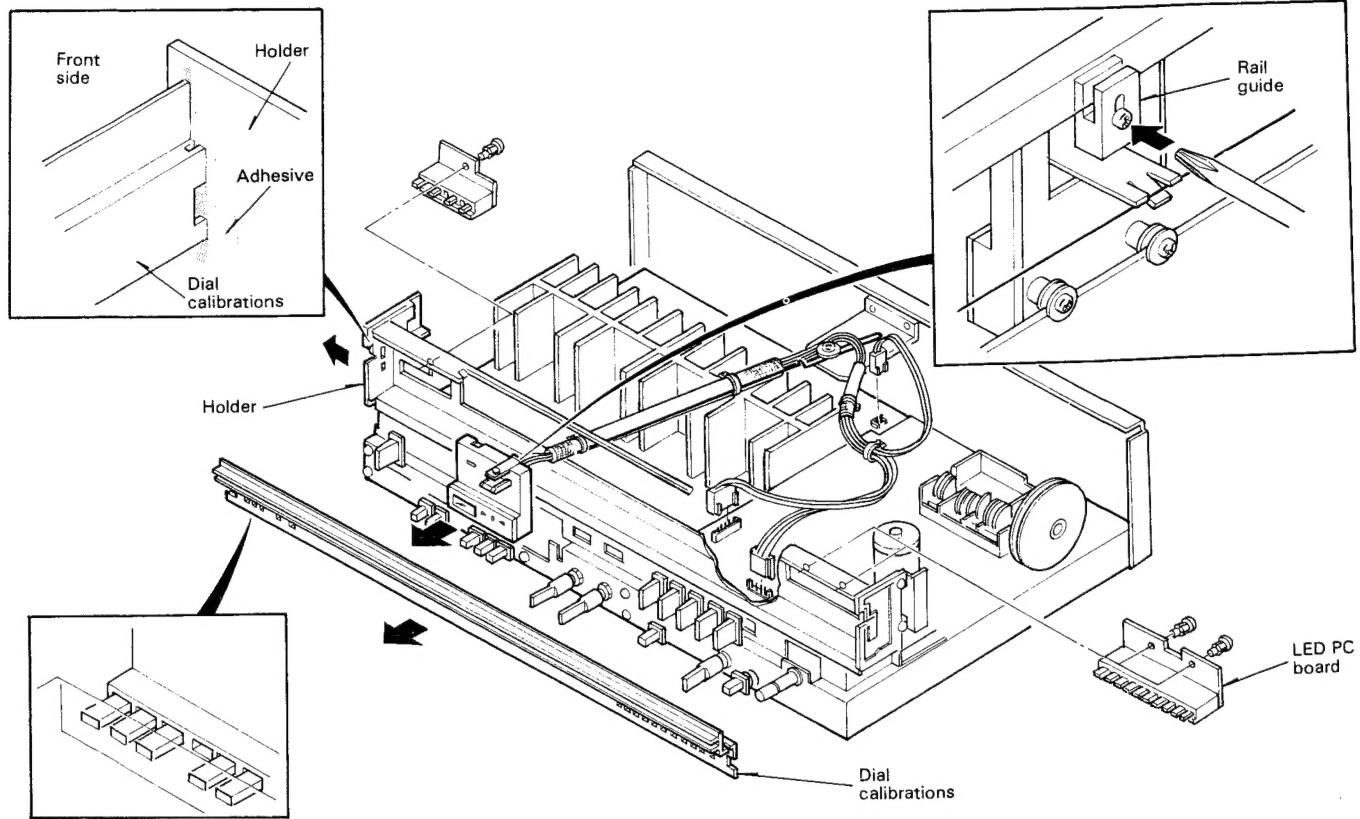


Since heat sink is provided for each power transistor, you can remove it by the following procedures.

1. Unsolder the leads of the transistor.
2. Loosen the screw and remove the plate on the top of the heat sink.
3. Pull the heat sink up.
4. Loosen the screws of the transistor.

## DISASSEMBLY FOR REPAIR

## REMOVAL OF DIAL POINTER ASSEMBLY



## REMOVAL OF DIAL POINTER ASSEMBLY

1. Loosen the screw retaining the rail guide at the upper rear of the dial pointer assembly and shift the rail guide down.
2. Pull out the connectors of the dial pointer assembly.
3. Take the adhesive off from the holder and the dial calibrations and from the dial cord and the dial pointer assembly.
4. Carefully separate the dial calibrations from the holder by spreading the holder outward.
5. Now you can remove the dial pointer assembly forward.

## CAUTIONS FOR INSTALLING

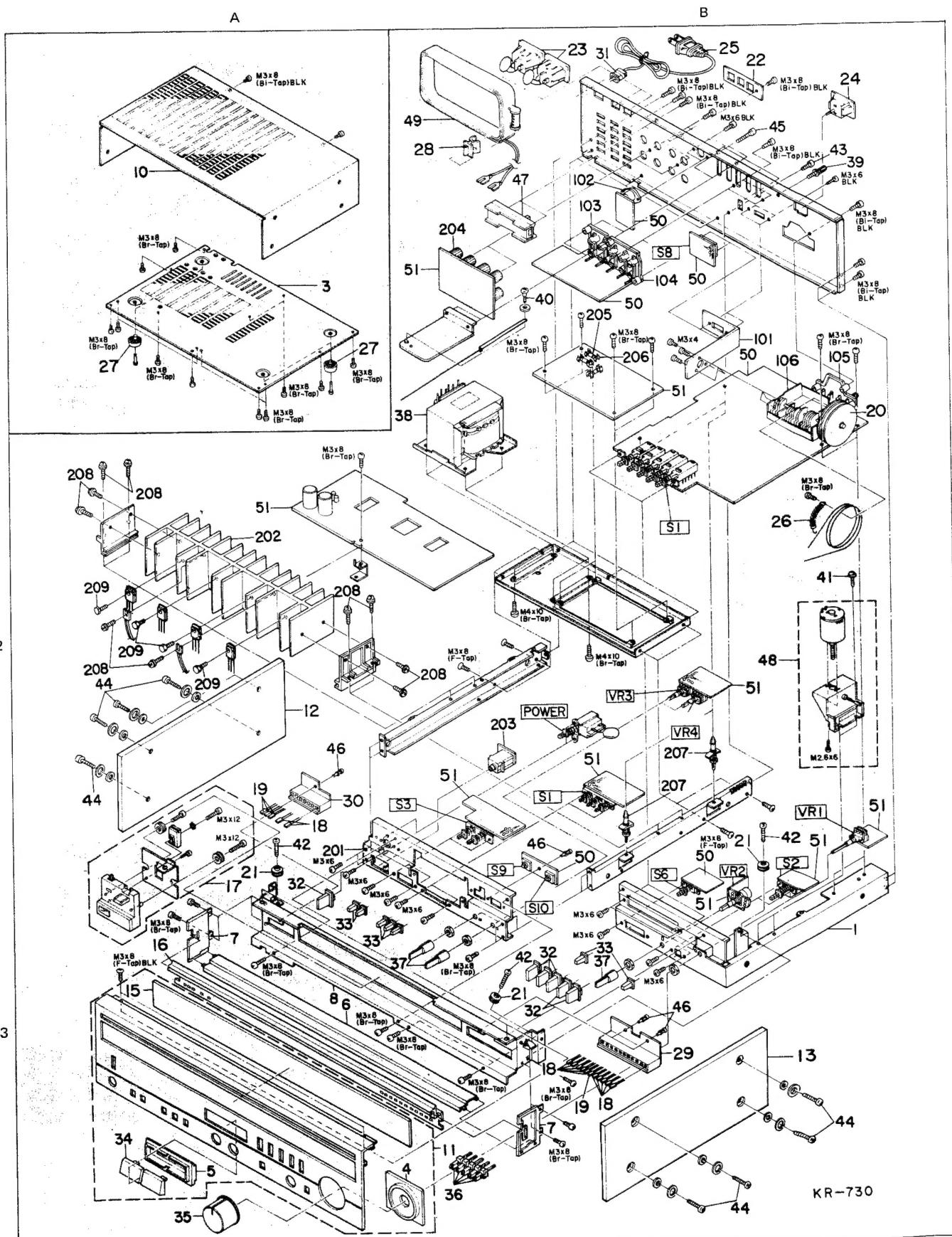
**Dial pointer assembly**

1. When tightening the screw retaining the rail guide, first tighten the screw loosely.
2. If the rail guide is overlifted, the dial pointer assembly may move clumsy or may even get stuck.
3. Confirm that the dial pointer assembly moves smoothly from end to end before tightening firmly.

**Dial calibrations**

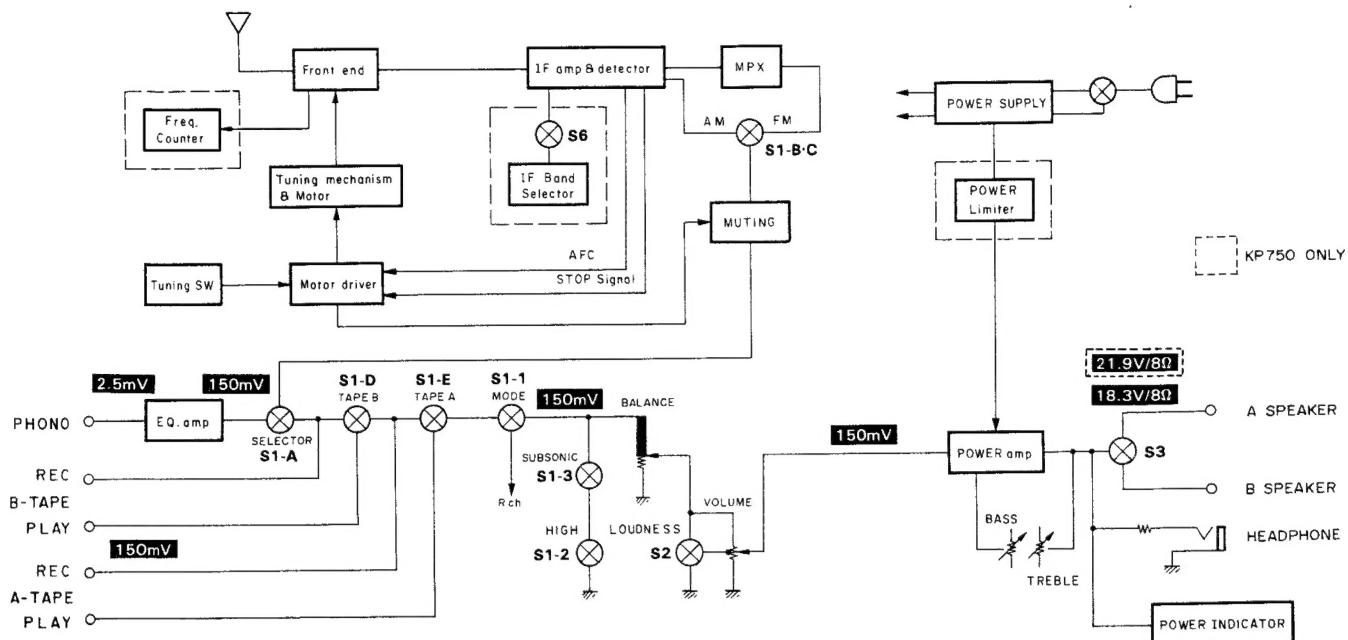
1. When installing the dial calibrations, confirm that all LEDs at the both ends are fit in the holes.
2. If any of the LEDs are stuck, pull out the rivet of the LED PC board and move the PC board to fit LEDs in place and push the rivet in again.

## EXPLODED VIEW





## BLOCK DIAGRAM



## CIRCUIT DESCRIPTION

## AUTOMATIC TUNING SYSTEM

The KR-750 and KR-730 employ an automatic tuning system (ATS) in the tuner section. By pressing the auto tuning UP/DOWN button, a motor drives the variable capacitor to tune to broadcasts. When the UP/DOWN button is kept pressed, the dial pointer moves at a speed at which it takes 7 seconds for the dial pointer to move from one end of the dial calibrations to the other. When the UP/DOWN button is pressed and released, the dial pointer moves at a speed at which it takes 12 seconds for the dial pointer to move from one end of the dial calibrations to the other until a broadcast signal is received.

A block diagram of the ATS is shown in figure 1. When the auto tuning UP/DOWN button is pressed, the variable capacitor driving motor starts. The motor stops when the stop signal from the IF discriminator (IC2) is detected. Furthermore, motor is driven to the correct tuning point by the AFC signal which is obtained by detecting the S curve.

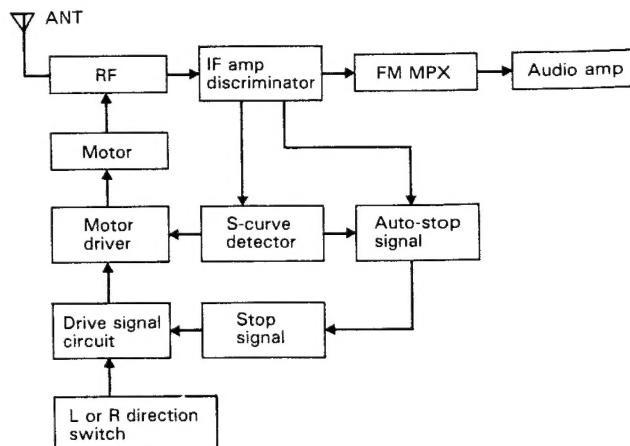


Fig. 1 Simplified Block Diagram

## CIRCUIT DESCRIPTION

### 1. Motor Drive Signal Generator

The circuit shown in figure 2 starts and stops the motor and controls the direction of rotation. The initial state of the circuit after power is switched on is shown in table 1.

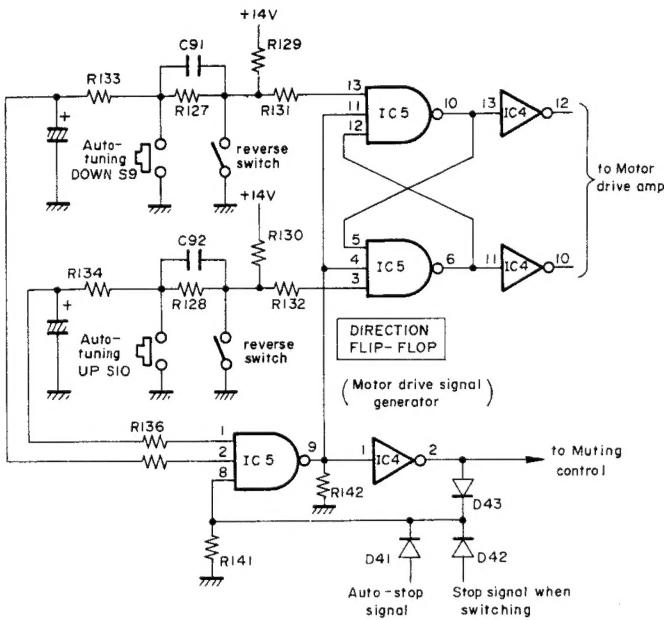


Fig. 2 Motor Drive Signal Generator

Pin No.	1	2	3	4	5	6	8	9	10	11	12	13
Condition												
Initial state	H	H	H	L	H	H	H	L	H	L	H	H
Running S9 Pressed	H	L	H	H	H	L	L	H	H	H	L	L
Left S9 Released	H	H	H	H	H	L	L	H	H	H	L	H

Table 1 Logic Levels of Pins of IC5

Pins 1, 2, 3 and 13 of IC5 are held to "H" (high level) by +14 V (See figure 2). After the power is turned on, the base of Q13 (in the Schmitt circuit) is raised for a short time by R97 and C87, thus Q13 is turned on. Therefore, Q14 is OFF and therefore "H" is applied to pin 8 of IC5 through D41. Then, all the inputs of the NAND gate is "H" so pin 9 becomes "L" (low level) and is applied to pin 4 and pin 11. Since pin 2 of IC4 is "H", pin 8 of IC5 is kept "H" through D43. Pin 6 and pin 10 are "H" because pin 4 and pin 11 are "L", and their levels are applied to pin 12 and pin 5, respectively. Their output levels are inverted by IC4. Thus, pin 10 and pin 12 of IC4 are "L" as shown in figure 2.

When the DOWN button (S9) is pressed, the levels of the pins of IC5 changes as shown in the second line of table 1. That is, pin 2 and pin 13 become "L" and pin 9 becomes "H". Then, pin 4 becomes "H", pin 6 becomes "L", therefore, pin 10 of IC4 is "H". On the other hand, pin 10 of IC5 does not change so that pin 12 of IC4 is kept "L". Therefore, the motor is driven so that the dial pointer moves to the left. (For motor driver, refer to Chapter 2.)

The dial pointer moves to the left until an "H" is applied to pin 8 of IC5 or pin 3 of IC5 is set "L" by the dial pointer reverse switch. (For the stop signal generator, refer to

Chapter 3.) While the dial pointer is moving, pin 8 of IC5 is "L" as shown in table 1. This is because, when the muting output signal appears at pin 12 of IC2 (in the FM NARROW mode of KR-750 and in the FM mode of KR-730), the NOR circuit, Q12, is ON, Q13 is OFF and Q14 is ON. If the selector (S1A ~ S1C) is switched over, the stop signal ("H") is applied to pin 8 of IC5 through D42. Therefore, the dial pointer stops.

When a broadcasting signal is received, pin 12 of IC2 drops to 0 V. When the S/M curve converter detects the correct tuning point, its output becomes 0 V. Therefore, the base of Q12 (NOR) is "L". Thus, Q12 is OFF, Q13 is ON and Q14 is OFF. Then, the auto-stop signal ("H") is applied to pin 8 of IC5 through D41.

While the auto tuning button S9 is kept pressed, the motor moves regardless of these stop signals. However, after the button has been released, pin 9 of IC5 becomes "L" when pin 8 becomes "H", because both pins 1 and 2 are "H". As both pins 6 and 10 are "H", pins 10 and 12 of IC4 become "L" and the motor stops.

### 2. Motor Drive Circuit

The motor drive signals explained in Chapter 1 are applied to operational amplifier (op amp), IC6.

When the dial pointer is to be moved to the left, "H" appears at pin 10 and "L" at pin 12 of IC4. Therefore, the op amp (IC6) operates as a non-inverting amplifier as shown in figure 4a and positive voltage will appear at the output (pin 1). On the other hand, when the dial pointer is to be moved to the right, "H" appears at pin 12 and "L" at pin 10 of IC4. Therefore, the op amp (IC6) operates as an inverting amplifier as shown in figure 4b and negative voltage will appear at the output (pin 1).

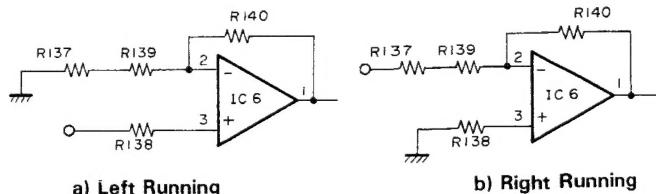


Fig. 4 IC6 (OP Amp)

When S9 or S10 is kept pressed, the base of Q25 is grounded through D39 or D40, respectively. Therefore, Q25 is ON and Q24 is ON, so that R145 is shorted. Then, the output voltage divided by R151 and R152 appears at point (A). In this case, the motor rotates at high speed.

When S9 or S10 is released, Q25 is OFF and Q24 is OFF. Therefore, the output voltage divided by R145, R151 and R152 appears at point (A). In this case, the motor rotates at low speed. That is, changing the base current of Q22 or Q23 controls the motor's speed. Table 2 shows voltages of points shown in figure 3.

Since one end of the motor is grounded, by applying a positive voltage to the other end, the motor rotates so that the pointer moves to the left, and vice versa. That is, setting the voltage at point (A) to positive, turns Q22 ON and positive voltage is applied to the motor, and by setting it to negative, Q23 is turned ON and a negative voltage is applied to the motor.

## CIRCUIT DESCRIPTION

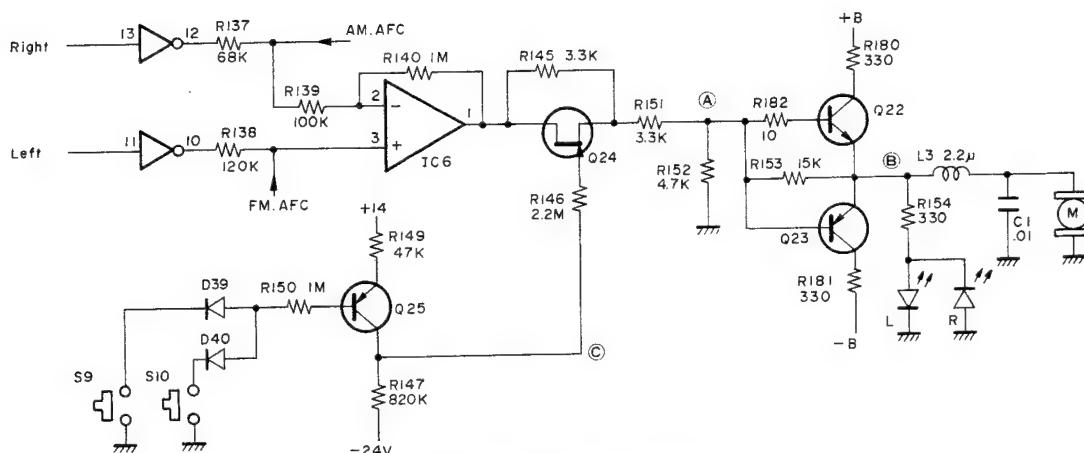


Fig. 3 Motor Drive Circuit

Test Point		IC4		IC6		Ⓐ	Ⓑ	Ⓒ
Condition	Running Speed	pin 12	pin 10	pin 1				
Running (Left)	High	0	+ 14	+ 14	+ 6.5	+ 6	+ 14	
	Low	0	+ 14	+ 14	+ 4.5	+ 4	- 24	
Running (Right)	High	+ 14	0	- 13	- 6.2	- 5.7	+ 14	
	Low	+ 14	0	- 13	- 4.2	- 3.7	- 24	
Stopped	-	0	0	0	0	0	- 24	

These are reference values in volts

**Table 2 Voltages at each point**

### 3. Automatic Stop Signal Generator

The stop signal stops the dial pointer when the correct tuning point is detected, or when the selector (S1-A~S1-C) is switched over or when the preset frequency is reached.

The automatic stop signal generator is shown in figure 5. The stop signal ("H") is applied to pin 8 of IC5 through D41. The signals detected differ according to the model (KR-750 or KR-730) and the selector position. They are shown in table 3.

Detection Radio Band	FM Noise	FM Mute	AM·FM Signal	FM·AM S·Curve
FM NARROW KR-730 FM	Yes	Yes	No	Yes
FM WIDE	No	No	Yes	Yes
AM	No	No	Yes	Yes

**Table 3** Detection signal for stop signal

The stop signal is generated when all the signals indicated by "yes" in the table are "L". In such cases, the base of Q12 is "L", and therefore, Q12 is OFF, Q13 is ON and Q14 is OFF. If Q14 is OFF, the collector will be "H" and this will be used as a stop signal.

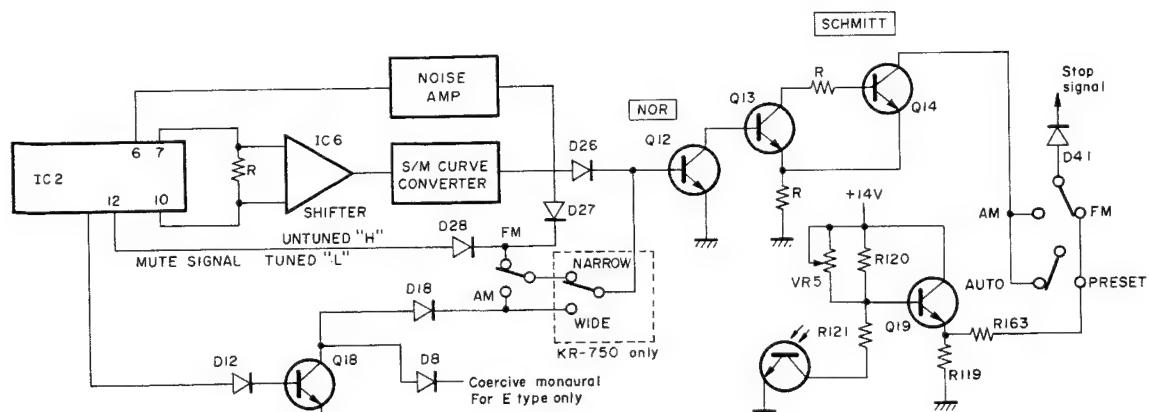


Fig. 5 Auto Stop Signal Generator

## CIRCUIT DESCRIPTION

## 3-1 FM noise detector

The FM noise detector detects the noise component of the FM detection output from IC2, and outputs a DC signal. Noise detector is shown in figure 6. The resonance frequency  $f_N$  of the tuning circuit connected to the collector of Q10 is given by

$$f_N = \frac{1}{2\sqrt{(L2) \times (C82)}}$$

$$\approx \frac{1}{2\sqrt{6.8 \times 10^{-3} \times 120 \times 10^{-12}}}$$

$$\approx 176 \text{ (kHz)}$$

When it resonates with a noise signal of about 176 kHz, the noise signal is amplified by Q10 and is then detected by D20 and D21 so that a DC component is output. This output is about 6 V when the tuner is detuned (out of the S curve range) and about -3 V when tuned (within the S curve range). This signal is applied to the base of Q12 in the FM NARROW mode for KR-750 and in the FM mode for KR-730.

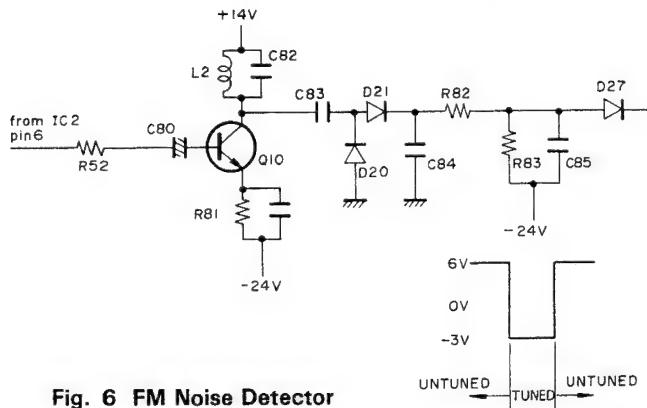


Fig. 6 FM Noise Detector

## 3-2 S/M Curve Converter

This circuit detects the S curve signal and passes through the  $\pm 6$  V limiter where the AFC signal is obtained, then the S curve signal is converted into the M curve signal to detect the correct tuning point. Potential changes at points (A)~(E) shown in figure 7 are shown in figure 8.

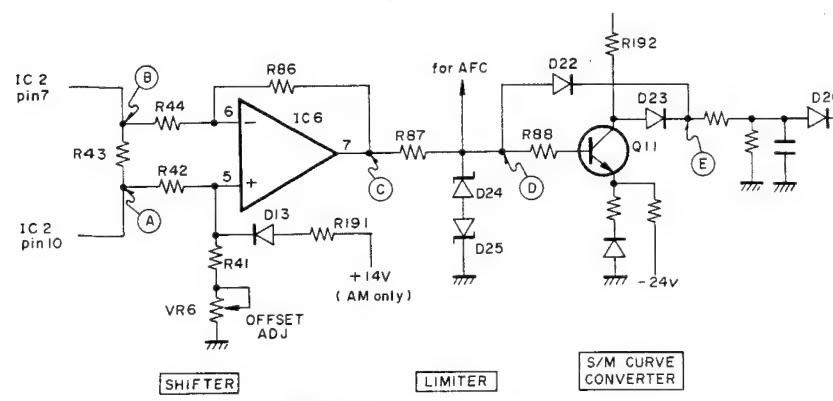


Fig. 7 S-Curve Detector

Pin 10 of IC2 is a constant current source and its voltage is fixed to about 5.6 V. The inclination of the S curve is different between AM and FM. This is because coil L1 (18 mH) is added in AM mode by the phase shifter selector Q1. Therefore, the inclination of the S curve is inverted. Pin 6 of IC6 is an inverting input terminal and pin 10 of IC2 is fixed. Therefore, the input waveform at point (B) is inverted and centered at 0 V as shown in figure 8b. D24 and D25 are 6 V Zener diodes and they act as a  $\pm 6$  V limiter when they are connected in this way. (Fig. 8c)

The S/M curve converter is provided to detect the correct tuning point (0 V cross point of S curve) exactly. Q11, D22 and D23 change their states as shown in table 4 according to the polarity of the signal at point (D), and the output waveform is as shown in figure 8-d. This signal is applied to the base of Q12 through D26.

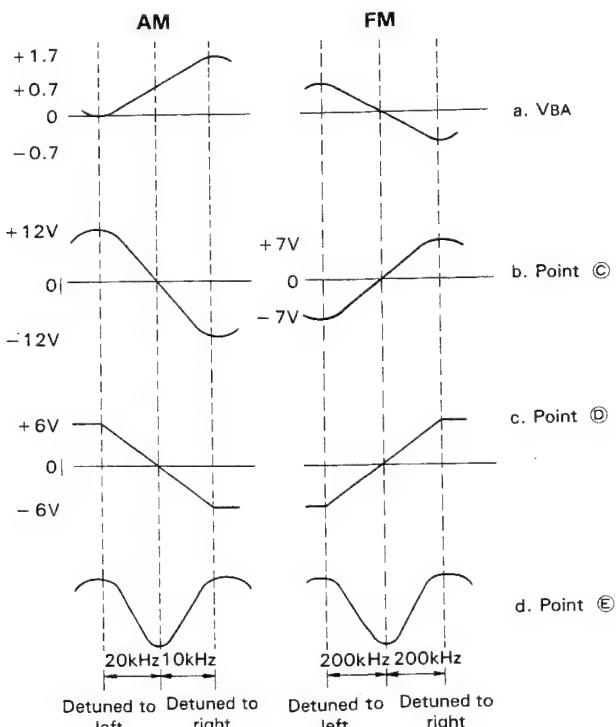


Fig. 8 Voltages at Each Point in Figure 7

Polarity at point D	Q11	D22	D23
+	ON	ON	OFF
0	ON	OFF	OFF
-	OFF	OFF	ON

Table 4 ONs and OFFs of Q11, D22, D23

## CIRCUIT DESCRIPTION

### 3-3 FM Muting Signal

Pin 12 of IC-2 is "H" when the tuner is detuned and "L" when tuned. This signal is applied to the base of Q12 through D28 in the FM NARROW mode of KR-750 and in the FM mode of KR-730.

### 3-4 AM/FM Signal Level Detector

The signal level meter output from pin 13 of IC2 is integrated by D12, R115 and C89, and applied to the base of Q18. When the signal level is high, Q18 is turned ON and the collector level becomes "L". Therefore, D18 is cut off. Thus, Q12 turns ON when the signal level is low and OFF when the signal level is high in the FM WIDE mode of KR-750 and in the AM mode of KR-730.

### 3-5 Preset Stop Signal

The phototransistor in the dial pointer assembly is normally ON because it receives light from the lamp. At this time the emitter level of Q19 is "L", about 0 V. When a preset marker screens the light, Q19 is turned OFF. Therefore, the emitter level of Q16 rises to "H", about 10 V and will be used as the stop signal.

#### 4. Stop Signal at Selector Switchover

This circuit generates the stop signal when the selector is switched over.

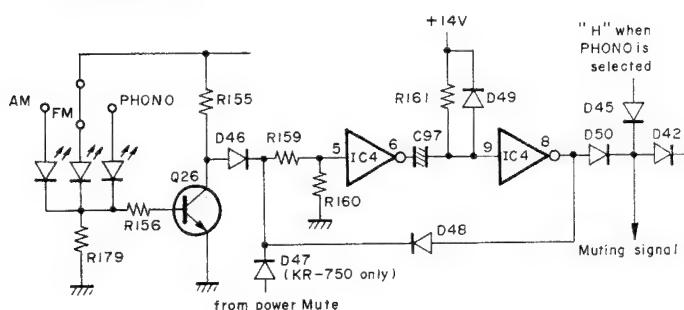


Fig. 9 Stop Signal Generator

The base of Q26 is usually biased via a selector indicator LED in the dial pointer assembly, so it is ON. Therefore, the collector level of Q26 is "L", pin 6 of IC4 is "H", pin 9 is "H" and pin 8 is "L". When the selector is switched over, no voltage is applied to LEDs for a short time ( $T_1$ : undefined) while no contacts complete the circuit.

Therefore, Q26 is turned OFF during this period. This level change at the collector of Q26 triggers the monostable multivibrator (IC4). When Q26 turns OFF, pin 5 of IC4 becomes "H" and pin 6 becomes "L". At the same, pin 9 of IC4 is "L" and pin 8 is "H". Next, when the selector is set to AM, FM or PHONO position, Q26 is turned ON. Although the collector of Q26 becomes "L", "H" level at pin 8 of IC4 is applied to pin 5 through D48. On the other hand, the voltage across C97 which is charged through R161 is applied to pin 9. Therefore, the voltage at pin 9 varies as shown in figure 10d. When the voltage at pin 9 exceeds the threshold level of IC4, pin 8 drops to "L". Thus, an stop signal ("H") with a width of  $T_2 = 0.69 \times (C97) \times (R161) = 0.69 \times 1 \times 10^{-6} \times 470 \times 10^{-3} = 0.32$  (sec) is output from pin 8 as shown in figure 10e. D49 absorbs the part indicated by the

dotted line to protect the C-MOS IC from breakage. When the selector is switched to PHONO from AM or FM, +14 V is applied to pin 8 of IC5 through D45 and D42. Therefore, pin 9 is "L" and the flip flop returns to its initial state.

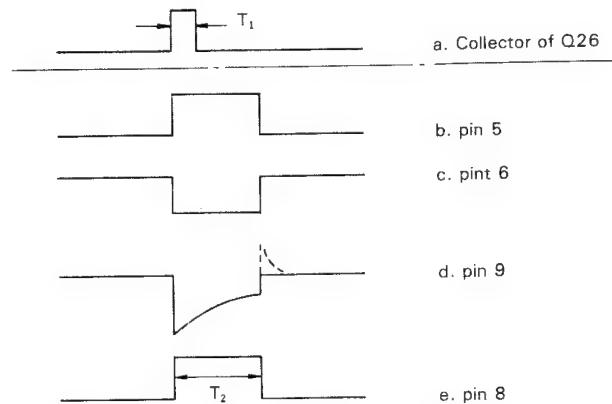


Fig. 10 Waveform of IC4

## 5. AFC Control Signal

AFC control is performed by the motor for FM and by the motor and varicap diode for AM. The auto stop signal, the motor stop signal, the stop signal at selector switchover and the power muting signal are applied to the NOR circuit (Q16) to control the gate of Q20 and Q21.

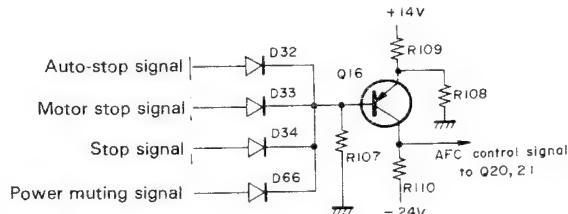


Fig. 11 AFC Control Signal

## 5-1 AFC by motor

The S curve signal shown in figure 8c is applied to the source of Q20. When Q16 is ON, the collector level is + 14 V. Therefore, Q20 is ON and the S curve signal is applied to the motor drive circuit (figure 3) through R123.

i) FM

For FM, S curve signal is connected to pin 3 of IC6 through R123 (non-inverting input) and the gain GFM of the motor drive circuit is 14.7 dB. The FM S curve signal level increases when the tuning frequency shifts to high frequencies and vice versa. Therefore, the voltage at pin 6 of IC6 varies as shown in figure 13a.

ii) AM

During AM reception, S curve signal is connected to pin 2 of IC6 through R123 (inverting input) and the gain GAM is 16.6 dB. The AM S curve signal level decreases when the tuning frequency shifts to high frequencies and vice versa. Therefore, the voltage at pin 6 of IC6 changes as shown in figure 13b. As shown in figure 13, when the tuning frequen-

## CIRCUIT DESCRIPTION

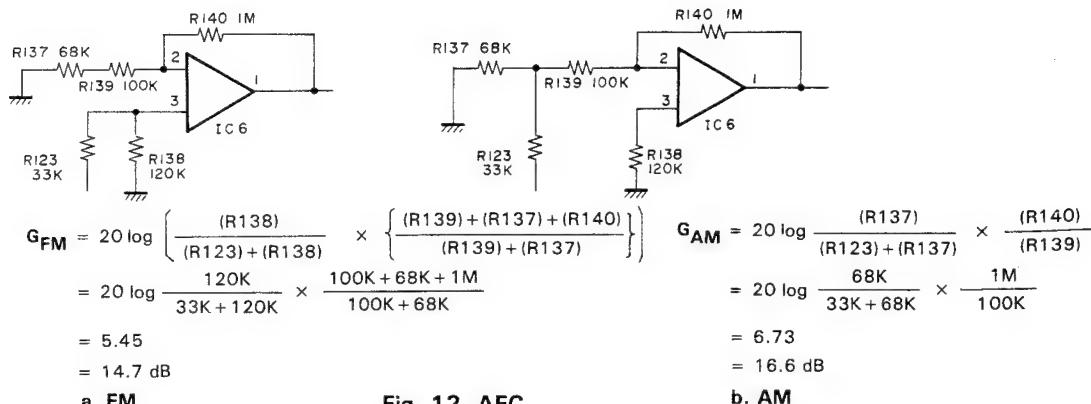


Fig. 12 AFC

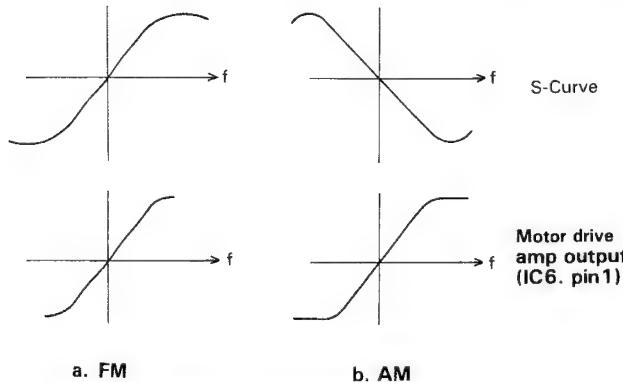


Fig. 13 Motor Drive Signal for AFC

cy shifts to high frequencies, a positive voltage is applied to the motor drive circuit and Q22 is turned on to move the dial pointer to low frequencies. When the dial pointer reaches the correct tuning position, the stop signal is generated and it stops. When the tuning frequency shifts to low frequencies, a negative voltage is applied to the motor drive circuit so that Q23 is turned on and the dial pointer moves to high frequencies. When the dial pointer reaches the correct tuning position, the stop signal is generated and it stops.

Further, the varicap diode is used for AM AFC. The voltage shift from the center of the S curve is used to control the local oscillator frequency. This circuit is provided to prevent the dial pointer from chattering. The AFC signal passed through the limitter shown in figure 8c (AM) is applied to the source of Q21 as the AFC signal. When Q16 is ON, the collector voltage is + 14 V and so Q21 is ON. Then, a voltage is applied to the varicap diode if there is an AFC signal. When detuned to a higher frequency, the voltage applied to D11 decreases, so that the capacitance of the varicap diode increases. Therefore, the local oscillation frequency is lowered to correctly tune to the signal. When detuned to a lower frequency, the voltage applied to D11 increases, so that the capacitance of the varicap diode decreases. Therefore, the local frequency is increased to correctly tune to the signal.

## Other Circuits

## 6-1 Muting Control

This circuit mutes the output while the dial pointer is moving. (See figure 15.) When the dial pointer starts moving, pin 2 of IC4 drops to "L". Then, pin 3 of IC4 is dropped to "L"

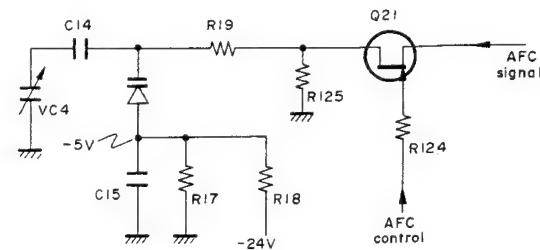


Fig. 14 Chattering Prevention Circuit for AM Auto Tuning

through D44. Pin 3 of IC4 is also connected to the collector of Q14, which is always "L" except at the time of auto-stop, via R162 and D29. Pin 4 of IC4 is "H" while the dial pointer is moving, and this "H" is applied to the base of Q15 through D30. The muting signal ("H") is also applied to the base of Q15 through D31 from the cathode of D50 in figure 9 when the selector is switched over or PHONO is selected. Therefore, Q15 is turned OFF and the collector level becomes - 24 V, so that the muting FETs Q2 and Q3 are turned OFF, resulting in no sound being output. When the dial pointer stops, pin 3 of IC4 is set to "H" and pin 4 is "L". Since the anode of D31 is also "L", Q15 is turned ON and the collector voltage becomes about + 9 V.

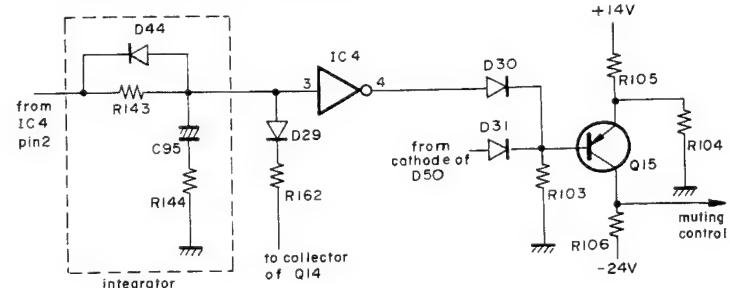


Fig. 15 Muting Control

Therefore, both Q2 and Q3 are turned ON, and the muted output is released. The voltage at pin 3 of IC4, however, does not exceed the threshold level immediately after the dial pointer has been stopped since an integrator (R143, R144

## CIRCUIT DESCRIPTION

and C95) is connected in parallel with D44.

### 6-2 TUNED LED Driver

#### i) AM

+14 V is applied to the base of Q30 through D60 to turn it ON. Therefore, Q29 is OFF, and Q28 is ON because it is biased through R173 and D54. Then, Q27 is turned ON by the muting-off signal (lock signal: +12 V when a signal is received and -24 V when no signal is received) when a broadcast signal is received, and the TUNED LED lights.

#### ii) FM (AUTO)

In the FM AUTO mode, the preset switch is in the OFF position. Therefore, the collector of Q29 is not supplied with the power. As, Q29 is OFF, Q28 is ON and Q27 will be turned ON to light the TUNED LED when a broadcast signal is received.

#### iii) FM (PRESET)

In the FM AUTO mode, when the preset switch is turned ON after a desired preset station has been tuned, the collector of Q29 is supplied with the power through the preset switch. Therefore, the astable multivibrator consisting of Q28 and Q29 starts operating so that the TUNED LED flickers. When the preset marker is shifted and set to the correct position in this condition, the TUNED LED stops flickering. This is

because the preset stops signal (+10 V when the preset marker is in the same position as the dial pointer, otherwise 0 V) is applied to the base of Q30 through D57 to turn it ON, and Q29 is turned OFF. This function is provided for easy and precise setting of preset markers.

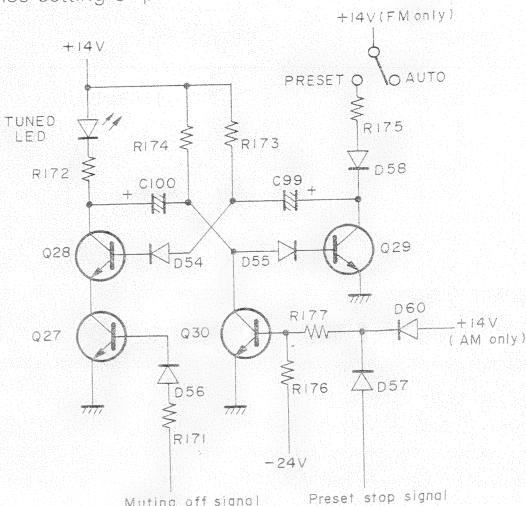


Fig. 16 TUNED LED Driver

## ADJUSTMENT/REGLAGES/ABGLEICH

### TEST INSTRUMENT

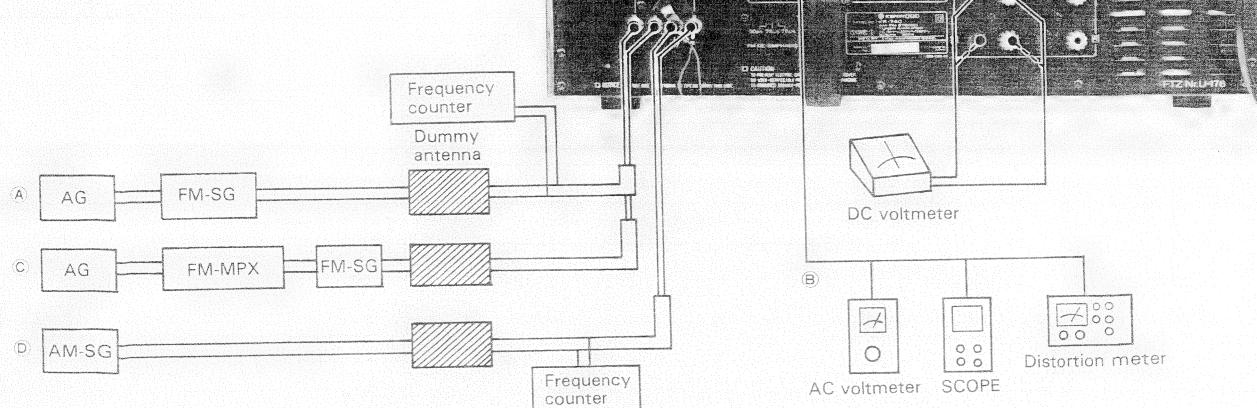
Oscilloscope	Oscilloscope
AM signal generator	Générateur MA
FM signal generator	Générateur MF
Audio generator	Générateur audio fréquences
AC voltmeter	Voltmètre CA
FM multiplex generator	Générateur multiplex stéréo
Frequency counter	Fréquencemètre
DC voltmeter	Voltmètre CC
Distortion meter	Distorsiomètre
Dummy antenna	Antenne fictive

### APPAREILAGE

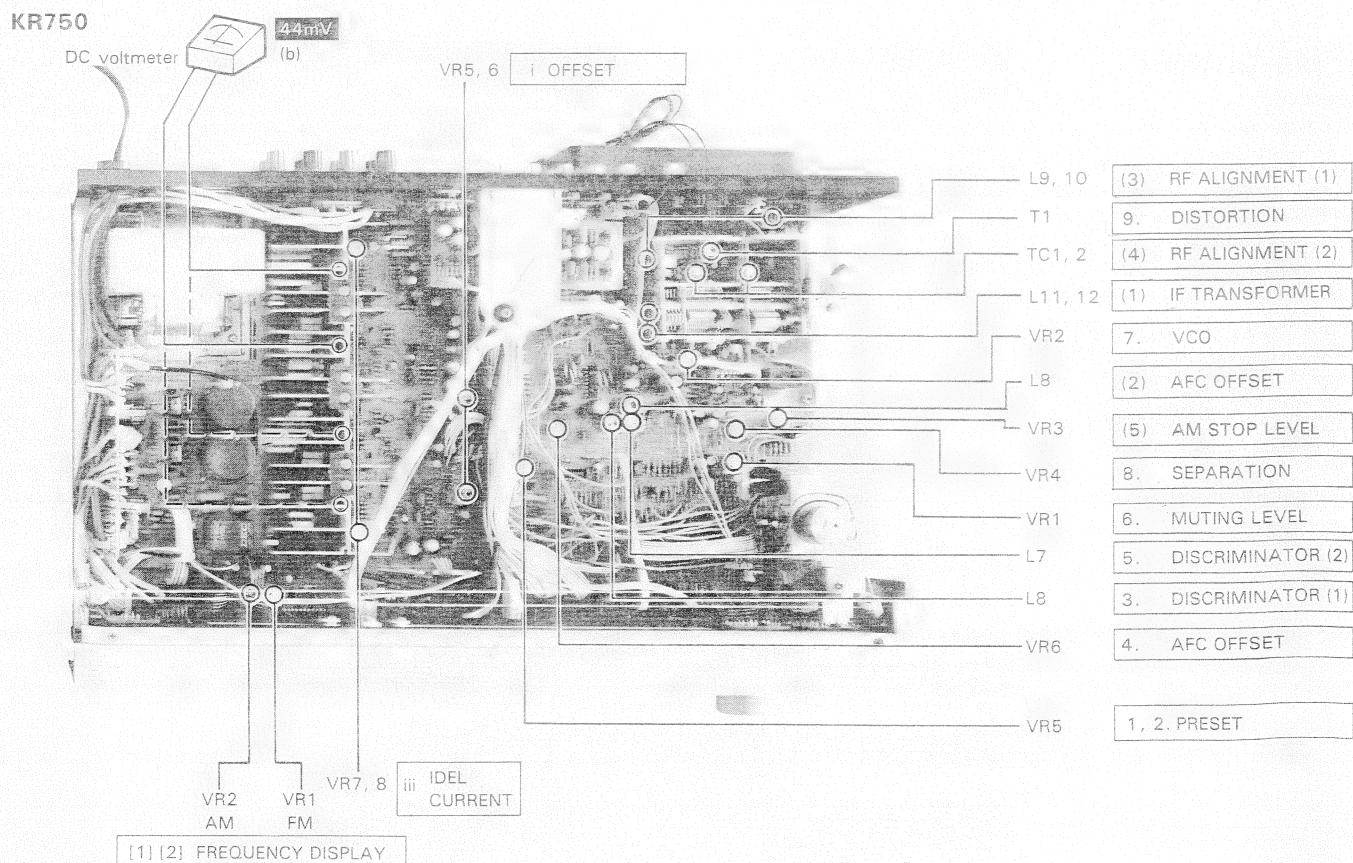
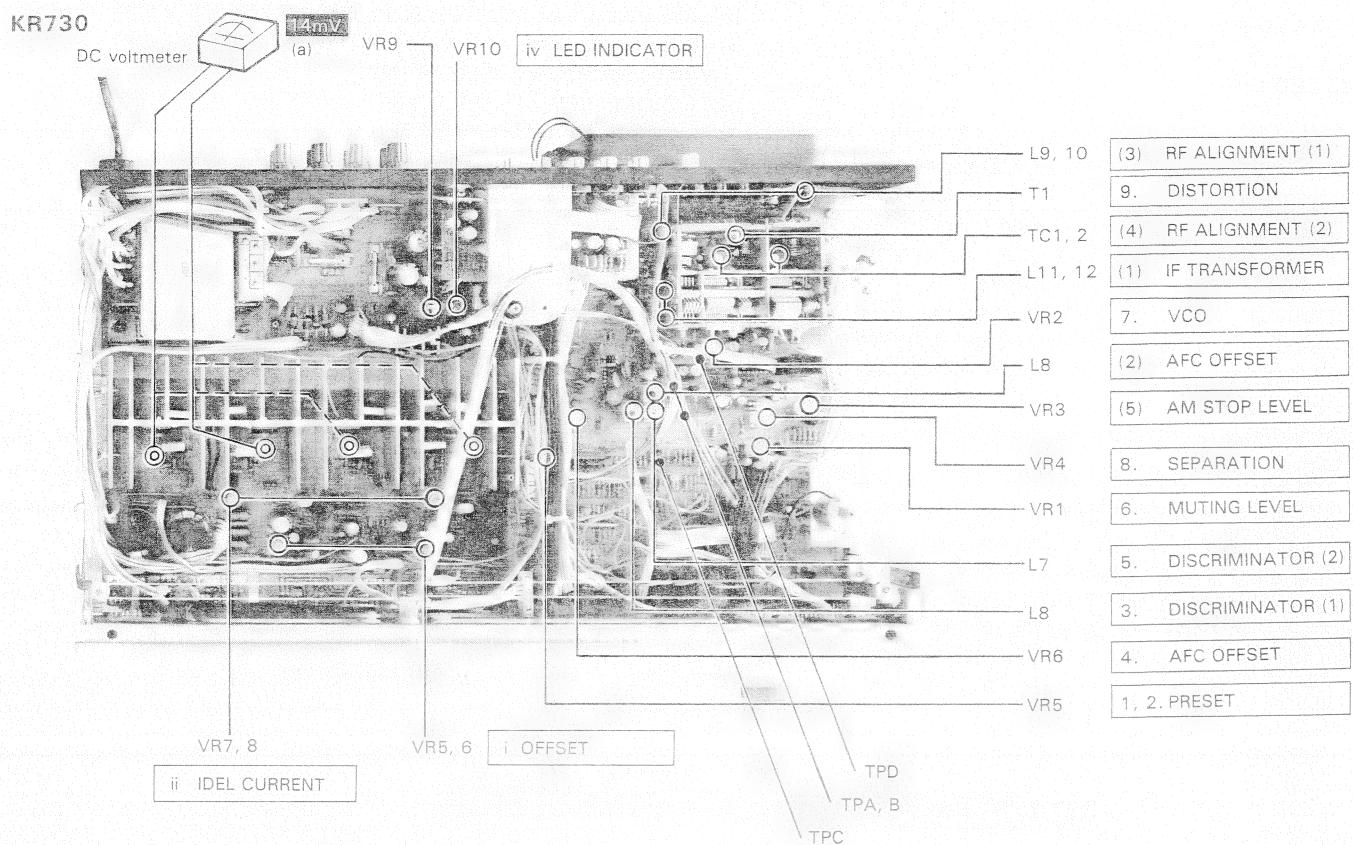
### PRÜFINSTRUMENTE

Oszilloskop	SCOPE
MW-Signalgenerator	AM-SG
UKW-Signalgenerator	FM-SG
NF-Signalgenerator	AG
Wechselspannungsmesser	
UKW-Multiplexgenerator	FM-MPX
Frequenzzähler	
Gleichspannungsmesser	
Klirrfaktormesser	
Antennennachbildung	

### SYSTEM CONNECTION



## ADJUSTMENT/REGLAGES/ABGLEICH



## ADJUSTMENT

NO.	ITEM	SYSTEM CONNECTIONS	TEST EQUIPMENT SETTING	TUNER (RECEIVER) SETTING	ALIGNMENT POINTS	ALIGN FOR	FIG.
<b>FM SECTION</b>							
1	<b>PRESET VOLTAGE (1)</b>	—	—	—	VR5	Set VR5 to its center.	
2	<b>PRESET VOLTAGE (1)</b>	Connect a DC voltmeter to the emitter of Q19 and the ground.	—	FM PRESET: ON PRESET marker: between stations in the FM band. Presetting reception.	VR5	10V	
3	<b>DISCRIMINATOR (1)</b>	Connect a DC voltmeter between TP A and TP B.	—	FM PRESET: ON PRESET marker: between stations in the FM band. Presetting reception.	L6	0V	
4	<b>AFC OFFSET</b>	Connect a DC voltmeter between TP C and the ground.	—	FM PRESET: ON PRESET marker: between stations in the FM band. Presetting reception.	VR6	0V	
AFC: automatic frequency control.							
5	<b>DISCRIMINATOR (2)</b>	(A) / (B)	98MHz 1kHz $\pm$ 75kHz dev 60dB (ANT input)	FM 98MHz PRESET: OFF	L7	Minimum distortion	
6	<b>MUTING LEVEL</b>	(A) / (B)	98MHz 1kHz $\pm$ 75kHz dev 60dB (ANT input)	FM (KR-730) FM NARROW (KR-750) 98MHz	VR1	Turn VR1 counterclockwise until the output waveform disappears. Then, turn VR1 clockwise until the output waveform appears again.	
Then, set the ANT input to 9dB. Check that the unit is tuned to the SG signal in both directions, that the dial pointer stops there, and that the signal is received.							
7	<b>VCO</b>	(A) / Connect a frequency counter to TP D via an AC voltmeter.	98MHz 0 dev 60dB (ANT input)	FM STEREO 98MHz	VR2	Frequency: 76kHz $\pm$ 200Hz	
VCO: Voltage Controlled Oscillator							
8	<b>SEPARATION</b>	(C) / (B)	98MHz 1kHz $\pm$ 68.25kHz dev Selector: L or R Pilot: $\pm$ 6.75kHz dev 60dB (ANT input)	FM STEREO 98MHz	VR4	Minimum crosstalk. A compromise adjustment may be required if left-to-right and right-to-left separations are unequal.	
9	<b>DISTORTION (STEREO)</b>	(C) / (B)	98MHz 1kHz $\pm$ 68.25kHz dev SELECTOR: L or R Pilot: $\pm$ 6.75kHz dev 60dB (ANT input)	FM STEREO 98MHz	T1 (Front end)	Minimum distortion	
<b>AM SECTION: Keep the AM loop antenna installed.</b>							
(1)	<b>IF TRANSFORMER</b>	(D) / (B)	455kHz 400Hz, 30% mod 80dB (ANT input)	AM TUNING: between stations in the AM band.	L11, 12	Maximum amplitude and symmetry of the oscilloscope display.	
Before the alignment, turn the power off when the dial pointer is between stations in the AM band. Then, ground R182 of its opposite side of Q22. Turn the power on again and set out the alignment.							
(2)	<b>AFC OFFSET (AM)</b>	(D) / Connect a DC voltmeter between TP C and the ground.	455kHz 400Hz, 30% mod 80dB (ANT input)	AM TUNING: between stations in the AM band.	L8	0V	
Before the alignment, turn the power off when the dial pointer is between stations in the AM band. Then, ground R182 of its opposite side of Q22. Turn the power on again and set out the alignment.							
(3)	<b>RF ALIGNMENT (AM)</b>	(D) / (B)	600kHz 400Hz, 30% mod	AM auto tuning 600kHz	L9, 10	Maximum amplitude and symmetry of the oscilloscope display.	
(4)	<b>RF ALIGNMENT (AM)</b>	(D) / (B)	1400kHz 400Hz, 30% mod	AM auto tuning 1400kHz	TC1, 2 (Front end)	Maximum amplitude and symmetry of the oscilloscope display.	
Repeat alignments 1 and 2 several times.							
(5)	<b>AM STOP LEVEL</b>	(D) / (B)	1000kHz 400Hz 30% Mod 27dB (ANT input)	AM 1000kHz	VR3	Turn VR3 clockwise until the output waveform disappears. Then, turn VR3 counterclockwise until the output waveform appears.	
Then, set the ANT input to 30dB. Check that the unit is tuned to the SG signal in both directions, that the dial pointer stops there, and that the signal is received.							
<b>FREQUENCY DISPLAY SECTION (KR-750)</b>							
[1]	<b>FREQUENCY DISPLAY (FM)</b>	(A)	98.00MHz 0 dev 60dB (ANT input)	FM auto tuning 98MHz	VR1	Adjust VR1 so that the frequency display reads 98.00MHz when the dial pointer stops at the 98MHz of the dial scale.	
Readings when tuned to the 98.00MHz signal from the left and when tuned to the 98.00MHz signal from the right should be equal.							
[2]	<b>FREQUENCY DISPLAY (AM)</b>	(D)	1000kHz 0 mod 60dB (ANT input)	AM auto tuning 1000kHz	VR2	Adjust VR2 so that the frequency display reads 1000kHz when the dial pointer stops at the 1000kHz of the dial scale.	
Readings when tuned to the 1000kHz signal from the left and when tuned to the 1000kHz signal from the right should be equal.							
<b>POWER AMP SECTION</b>							
i	<b>OFFSET</b>	Connect a DC voltmeter to SPEAKERS A terminals.	—	SPEAKERS: A VOLUME: 0 VR 5 (L ch) VR 6 (R ch)	0V		

NO.	ITEM	SYSTEM CONNECTIONS	TEST EQUIPMENT SETTING	TUNER (RECEIVER) SETTING	ALIGNMENT POINTS	ALIGN FOR	FIG.
ii	<b>IDLE CURRENT (KR-730)</b>	Connect a DC voltmeter between TP 30 and TP 31 (TP 32 and TP 33).	—	VOLUME: 0	VR 7 (L ch) VR 8 (R ch)	14mV	(a)
iii	<b>IDLE CURRENT (KR-750)</b>	Connect a DC voltmeter between the heat sinks for Q15 and for Q17 (Q16 and Q18).	—	VOLUME: 0	VR7 (L ch) VR8 (R ch)	44mV	(b)
iv	<b>LED INDICATOR (KR-730)</b>	Connect an AG to TAPE A jack and a dummy load to SPEAKERS A terminals respectively. Connect an AC voltmeter across the dummy load.	AG: 1kHz and for a 6.3V reading of the AC voltmeter.	TAPE: A PLAY SPEAKERS: A VOLUME: 100	VR 9 (L ch) VR 10 (R ch)	5W	

## REGLAGES

N°.	ITEM	RACCORDEMENTS DU SYSTEME	REGLAGE DE L'APPAREILAGE	REGLAGE DU TUNER (AMPLI-TUNER)	POINT D'ALIGNEMENT	ALIGNER POUR	FIG.
<b>SECTION MF</b>							
1	<b>TENSION DE PREREGLAGE (1)</b>	—	—	—	VR5	Régler VR5 dans la position centrale.	
2	<b>TENSION DE PREREGLAGE (2)</b>	Connecter un voltmètre CC à l'émetteur de Q19 et à la terre.	—	FM PRESET: ON Curseur PRESET: entre les stations de la bande FM. Réception des stations préréglées.	VR5	10V	
3	<b>DISCRIMINATEUR (1)</b>	Connecter un voltmètre CC entre TP A et TP B.	—	FM PRESET: ON Curseur PRESET: entre les stations de la bande MF. Réception des stations préréglées.	L6	0V	
4	<b>DECALAGE DE CAF</b>	Connecter un voltmètre CC entre TP C et la terre.	—	FM PRESET: ON Curseur PRESET: entre les stations de la bande MF. Réception des stations préréglées.	VR6	0V	
CAF: contrôle automatique de fréquence.							
5	<b>DISCRIMINATEUR (2)</b>	(A) / (B)	98MHz 1kHz ± 75kHz dév 60dB (Entrée ANT)	FM 98MHz PRESET: OFF	L7	Distortion minimale	
6	<b>NIVEAU DU MUTING</b>	(A) / (B)	98MHz 1kHz ± 75kHz dév 60dB (Entrée ANT)	FM (KR-730) FM NARROW (KR-750) 98MHz	VR1	Tourner VR1 vers la gauche jusqu'à ce que la forme d'onde de sortie disparaît. Puis tourner VR1 vers la droite jusqu'à ce que la forme d'onde de sortie réapparaisse à nouveau.	
Puis régler l'entrée ANT à 9dB. S'assurer que le signal SG est accordé dans les deux directions. L'aiguille du cadran s'arrête sur la position où le signal est reçu.							
7	<b>OSCILLATEUR CONTROLE PAR LA TENSION</b>	(A) / Connecter un comp-teur de fréquence à TP D par un voltmètre CA.	98MHz 0 dév 60dB (Entrée ANT)	FM STEREO accord manuel 98MHz	VR2	Fréquence: 76kHz ± 200Hz	
8	<b>SEPARATION</b>	(C) / (B)	98MHz 1kHz ± 68,25kHz dév Selection: L ou R Signal Pilot: ± 6,75kHz dév 60dB (Entrée ANT)	FM STEREO 98MHz	VR4	Diaphonie minimale. Un compromis de réglage peut être nécessaire si les séparations de gauche à droite et de droite à gauche sont inégales.	
9	<b>DISTORSION (STEREO)</b>	(C) / (B)	98MHz 1kHz ± 68,25kHz dév SELECTION: L ou R Signal pilote: ± 6,75kHz dév 60dB (Entrée ANT)	FM STEREO 98MHz	T1 (Tête H.F.)	Distorsion minimale	
<b>SECTION MA: Laisser l'antenne boucle MA installée.</b>							
(1)	<b>TRANSFORMATEUR F.I.</b>	(D) / (B)	455kHz 400Hz, 30% mod 80dB (Entrée ANT)	AM ACCORD: entre stations de la bande MF.	L11, 12	Amplitude et symétrie maximale de l'affichage de l'oscilloscope.	
Avant d'aligner, arrêter l'appareil lorsque l'aiguille du cadran est entre deux stations AM. Mettre R182 du côté opposé de Q22. Remettre l'appareil en marche et régler l'alignement.							
(2)	<b>DECALAGE DE C.A.F. (MA)</b>	(D) / Connecter un voltmètre CC entre TP C et la terre.	455kHz 400Hz, 30% mod 80dB (Entrée ANT)	AM ACCORD: entre stations de la bande MF.	L8	0V	
Avant d'aligner, arrêter l'appareil lorsque l'aiguille du cadran est entre deux stations AM. Mettre R182 du côté opposé de Q22. Remettre l'appareil en marche et régler l'alignement.							

N°.	ITEM	RACCORDEMENTS DU SYSTEME	REGLAGE DE L'APPAREILLAGE	REGLAGE DU TUNER (AMPLI-TUNER)	POINT D'ALIGNEMENT	ALIGNER POUR	FIG.
(3)	ALIGNEMENT H.T. (MA)	(D) / (B)	600kHz 400Hz, 30% mod	AM accord automatique 600kHz	L9, 10	Amplitude et symétrie maximale de l'affichage de l'oscilloscope.	
(4)	ALIGNEMENT H.T. (MA)	(D) / (B)	1400kHz 400Hz, 30% mod	AM accord automatique 1400kHz	TC1, 2 Tête H.F.	Amplitude et symétrie maximale de l'affichage de l'oscilloscope.	
Répéter les points 1 et 2 plusieurs fois.							
(5)	MA NIVEAU D'ARRET	(D) / (B)	1000kHz 400Hz 30% mod 27dB (Entrée ANT)	AM 1000kHz	VR3	Tourner VR3 vers la droite jusqu'à ce que la forme d'onde de sortie disparaîsse. Puis tourner VR3 vers la gauche jusqu'à ce que la forme d'onde de sortie réapparaisse à nouveau.	
Puis régler l'entrée ANT à 30dB. S'assurer que le signal SG est accordé dans les deux directions. L'aiguille du cadran s'arrête sur la position où le signal est reçu.							
<b>SECTION AFFICHAGE FREQUENCE (KR-750)</b>							
[1]	AFFICHAGE de la FREQUENCE (MF)	(A)	98,00MHz 0 dév 60dB (Entrée ANT)	FM accord automatique 98MHz	VR1	Régler VR1 de sorte que l'affichage de fréquence indique 98,00MHz lorsque l'aiguille du cadran s'arrête à 98MHz.	
En tournant à gauche ou à droite au signal 98MHz, la lecture doit être égale.							
[2]	AFFICHAGE de la FREQUENCE (MA)	(D)	1000kHz 0 mod 60dB (Entrée ANT)	AM accord automatique 1000kHz	VR2	Régler VR1 de sorte que l'affichage de fréquence indique 1000kHz lorsque l'aiguille du cadran s'arrête à 1000kHz.	
En tournant à gauche ou à droite au signal 1000kHz, la lecture doit être égale.							
<b>SECTION AMPLIFICATEUR DE PUISSANCE</b>							
i	DECALAGE (OFFSET)	Connecter un voltmètre CC aux bornes SPEAKERS A.	—	SPEAKERS: A VOLUME: 0	VR 5 (gauche) VR 6 (droit)	0V	
ii	COURANT DE POLARISATION (KR-730)	Connecter un voltmètre CC entre TP30 et TP31 (TP32 et TP33).	—	VOLUME: 0	VR7 (gauche) VR8 (droit)	14mV	(a)
iii	COURANT DE POLARISATION (KR-750)	Connecter un voltmètre CC entre les dissipateurs thermiques pour Q15 et pour Q17 (Q16 et Q18).	—	VOLUME: 0	VR7 (gauche) VR8 (droit)	44mV	(b)
iv	INDICATEUR LED (KR-730)	Connecter un générateur de signaux audio sur le jack TAPE A et une fausse charge (résistance) aux bornes SPEAKERS A. Connecter un voltmètre CA sur la fausse charge.	Générateur de signaux audio: 1kHz et 6.3V pour voltmètre CA.	TAPE: A PLAY SPEAKERS: A VOLUME: 100	VR 9 (gauche) VR 10 (droit)	5W	

## ABGLEICH

NR.	GEGENSTAND	SYSTEM-ANSCHLÜSSE	PRÜFEINRICHTUNG-EINSTELLUNG	TUNER (RECEIVER)-EINSTELLUNG	ABGLEICH-PUNKTE	ABGLEICHEN FÜR	ABB.
<b>UKW-EMPFANGSABTEILUNG</b>							
1	VOREINGESTELLTE SPANNUNG (1)	—	—	—	VR5	VR5 auf Mittelstellung einstellen.	
2	VOREINGESTELLTE SPANNUNG (2)	Einen Gleichspannungsmesser zum Emitter von Q19 und der Erde.	—	FM PRESET: ON Programmierschieber: zwischen Stationen im UKW-Bereich abstimmen. Empfang vorprogrammierter Sender.	VR5	10V	
3	DISKRIMINATOR (1)	Einen Gleichspannungsmesser zwischen TP A und TP B anschließen.	—	FM PRESET: ON Programmierschieber: zwischen Stationen im UKW-Bereich abstimmen. Empfang vorprogrammierter Sender.	L6	0V	
4	AUTOMATISCHE FREQUENZ-REGELUNG-VERSCHIEBUNG	Einen Gleichspannungsmesser zwischen TP C und der Erde anschließen.	—	FM PRESET: ON Programmierschieber: Zwischen Stationen im UKW-Bereich abstimmen. Empfang vorprogrammierter sender.	VR6	0V	
5	DISKRIMINATOR (2)	(A) / (B)	98MHz 1kHz ± 75kHz Hub 60dB (ANT-Eingang)	FM 98MHz PRESET: ON	L7	Minimaler Klirrfaktor	

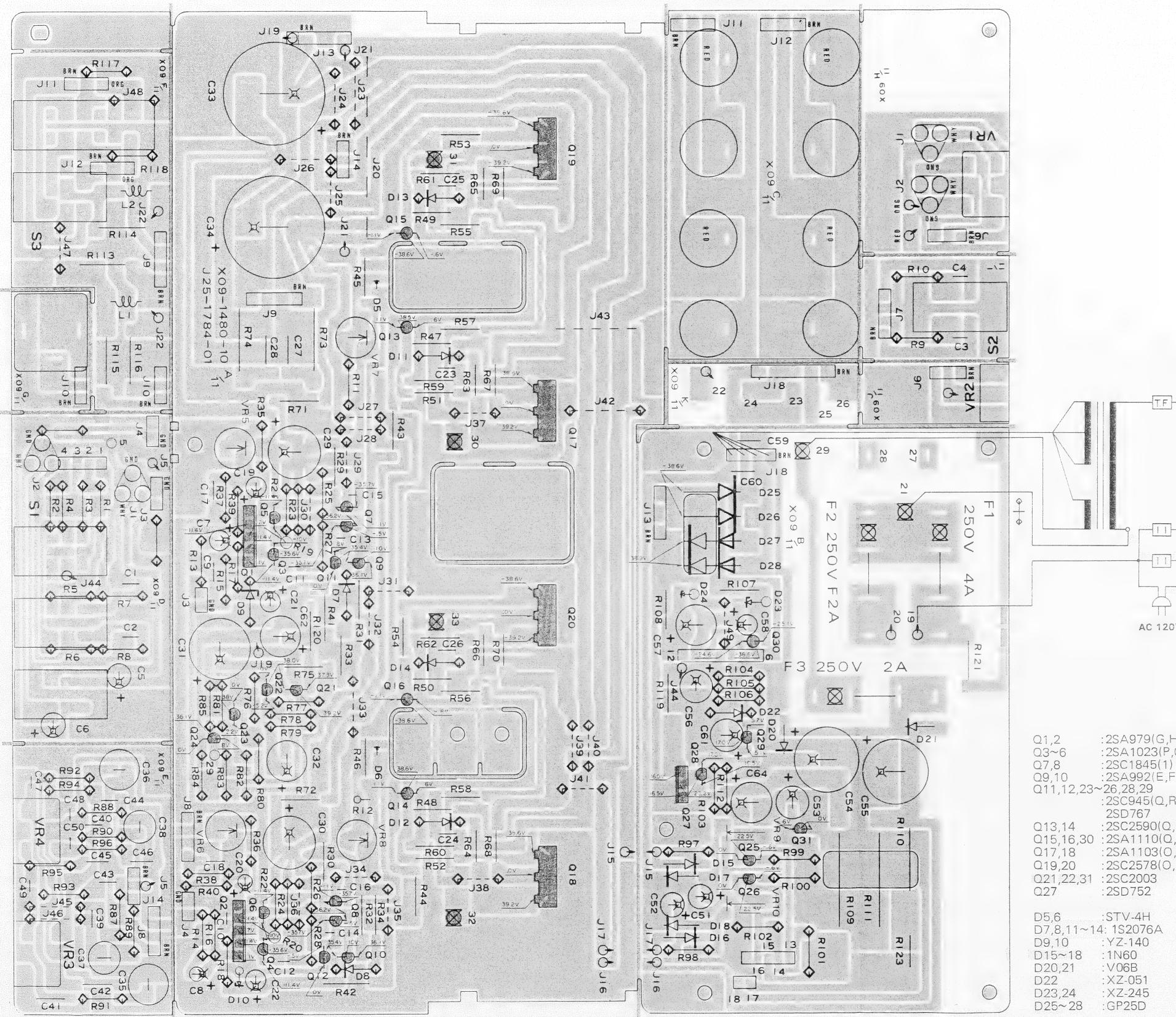
## ABGLEICH

NR.	GEGENSTAND	SYSTEM-ANSCHLÜSSE	PRÜFEINRICHTUNG-EINSTELLUNG	TUNER (RECEIVER)-EINSTELLUNG	ABGLEICH-PUNKTE	ABGLEICHEN FÜR	ABB.
6	RAUSCHSPERRE-PEGEL	(A) / (B)	98MHz 1kHz $\pm$ 75kHz Hub 6dB (ANT-Eingang)	FM (KR-730) FM NARROW (KR-750) 98MHz	VR1	VR1 entgegen dem Uhrzeigersinn drehen, bis die Ausgangswellenform verschwindet. Dann VR1 im Uhrzeigersinn drehen, bis die Ausgangswellenform wieder erscheint.	
Dann der ANT-Eingang auf 9dB einstellen. Nachprüfen, ob das Gerät auf das Signalgenerator-Signal in beiden Richtungen abgestimmt ist, ob der Skalenzeiger dort zum Stillstand kommt und ob das Signal empfangen wird.							
7	SPANNUNGS-GEREGELTER OSZILLATOR	(A) / Einen Frequenzmesser zu TP D über einem Wechselspannungsmesser anschließen.	98MHz 0 Hub 60dB (ANT-Eingang)	FM STEREO 98MHz	VR2	Frequenz: 76kHz $\pm$ 200Hz	
8	STEREO KANAL TRENNUNG	(C) / (B)	98MHz 1kHz $\pm$ 68,25kHz Hub Wähler: L oder R Pilotton: $\pm$ 6,75kHz Hub 60dB (ANT-Eingang)	FM STEREO 98MHz	VR4	Minimales Übersprechen. Eine Ausgleichregelung kann notwendig sein, falls links-zu-rechts und rechts-zu-links Trennungen ungleich sind.	
9	KLIRRFAKTOR (STEREO)	(C) / (B)	98MHz 1kHz $\pm$ 68,25kHz Hub Wähler: L oder R Pilotton: $\pm$ 6,75kHz Hub 60dB (ANT-Eingang)	FM STEREO 98MHz	T1 (Frontende)	Minimaler Klirrfaktor	
<b>MW-EMPFANGSABTEILUNG: Die MW-Rahmenantenne angebracht lassen.</b>							
(1)	ZF-ÜBERTRÄGER	(D) / (B)	455kHz 400Hz, 30% mod 80dB (ANT-Eingang)	AM ABSTIMMUNG: zwischen Stationen im UKW-Bereich abstimmen.	L11, 12	Maximale Amplitude und Symmetrie des Oszilloskopbildes.	
Vor der Abgleichung den Netzstrom abschalten, wenn die Skalennadel auf dem MW-Band zwischen zwei Sendern steht. Danach R182 an seiner Q22 gegenüberliegenden Seite erden. Netzstrom wieder einschalten und Abgleichung vornehmen.							
(2)	AUTOMATISCHE FREQUENZREGELUNG-VERSCHIEBUNG (MW)	(D) / Einen Gleichspannungsmesser zwischen TP C und der Erde anschließen	455kHz 400Hz, 30% mod 80dB (ANT Eingang)	AM ABSTIMMUNG: zwischen Stationen im UKW-Bereich abstimmen.	L8	0V	
Vor der Abgleichung den Netzstrom abschalten, wenn die Skalennadel auf dem MW-Band zwischen zwei Sendern steht. Danach R182 an seiner Q22 gegenüberliegenden Seite erden. Netzstrom wieder einschalten und Abgleichung vornehmen.							
(3)	HF-ABGLEICH (MW)	(D) / (B)	600kHz 400Hz, 30% mod	AM automatische Abstimmung 600kHz	L9, 10	Maximale Amplitude und Symmetrie des Oszilloskopbildes.	
(4)	HF-ABGLEICH (MW)	(D) / (B)	1400kHz 400Hz, 30% mod	AM automatische Abstimmung 1400kHz	TC1, 2 Frontende	Maximale Amplitude und Symmetrie des Oszilloskopbildes.	
Abstimmungen 1 und 2 mehrere Male wiederholen.							
(5)	MW STOPPEGEL	(D) / (B)	1000kHz 400Hz 30% mod 27dB (ANT-Eingang)	AM 1000kHz	VR3	VR3 im Uhrzeigersinn drehen, bis die Ausgangswellenform verschwindet. Dann VR3 entgegen dem Uhrzeigersinn drehen, bis die Ausgangswellenform wieder erscheint.	
Dann der ANT-Eingang auf 30dB einstellen. Nachprüfen, ob das Gerät auf das Signalgenerator-Signal in beiden Richtungen abgestimmt ist, ob der Skalenzeiger dort zum Stillstand kommt und ob das Signal empfangen wird.							
<b>FREQUENZANZEIGEABTEILUNG (KR-750)</b>							
[1]	DIGITALFREQUENZ-ANZEIGE (UKW)	(A)	98,00MHz 0 Hub 60dB (ANT-Eingang)	FM automatische Abstimmung 98MHz	VR1	VR1 so justieren, daß die Frequenzanzeige 98,00 MHz anzeigt, wenn der Skalenzeiger auf der Position 98 MHz der Senderskala steht.	
Bei Abstimmung auf das 98MHz-Signal von links und bei Abstimmung auf das 98MHz-Signal von rechts, müssen die Anzeigewerte gleich sein.							
[2]	DIGITALFREQUENZ-ANZEIGE (MW)	(D)	1000kHz 0 mod 60dB (ANT-Eingang)	AM automatische Abstimmung 1000kHz	VR2	VR1 so justieren, daß die Frequenzanzeige 1000 kHz anzeigt, wenn der Skalenzeiger auf der Position 1000 kHz der Senderskala steht.	
Bei Abstimmung auf das 1000kHz-Signal von links und bei Abstimmung auf das 1000kHz-Signal von rechts, müssen die Anzeigewerte gleich sein.							
<b>ENDVERSTÄRKERABTEILUNG</b>							
I	VERSCHIEBUNG (OFFSET)	Einen Gleichspannungsmesser zu klemmen SPEAKERS A anschließen.	—	SPEAKERS: A VOLUME: 0	VR 5 (linken Kanal) VR 6 (rechter Kanal)	0V	
ii	LEERLAUF-STROM (KR-730)	Einen Gleichspannungsmesser zwischen TP30 und TP31 (TP32 und TP33).	—	VOLUME: 0	VR7 (linken kanal) VR8 (rechten kanal)	14mV	(a)
iii	LEERLAUF-STROM (KR-750)	Einen Gleichspannungsmesser zwischen der Kühlkörper für Q15 und für Q17 (Q16 und Q18).	—	VOLUME: 0	VR7 (linken kanal) VR8 (rechten kanal)	44mV	(b)
iv	LED INDIKATOR (KR-730)	Einen NF-Signalgenerator zu Buchse TAPE A und eine Belastungsnachbildung zu Klemmen SPEAKERS A anschließen. Einen Wechselspannungsmesser über die Belastungsnachbildung anschließen.	NF-Signalgenerator: 1kHz und für eine 6,3V-Ableseung vom Wechselspannungsmesser.	TAPE: A PLAY SPEAKERS: A VOLUME: 100	VR 9 (linken Kanal) VR 10 (rechten Kanal)	5W	

## PC BOARD

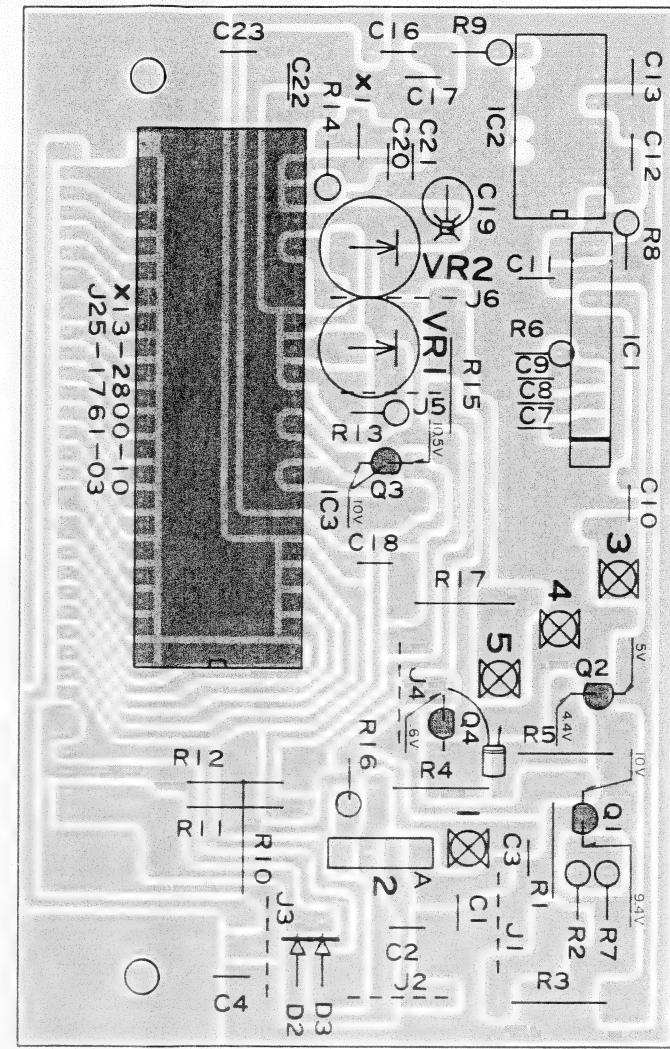
KR-730

**AUDIO (X09-148\*-\*\*\*) Component Side View**



**KR-750**

#### COUNTER (X13-2800-10) Component Side View



Q1,2 :2SA979(G,H)  
 Q3~6 :2SA1023(P,Q)  
 Q7,8 :2SC1845(1)  
 Q9,10 :2SA992(E,F)  
 Q11,12,23~26,28,29  
 29,30,31(P,Q)

Q13,14	:2SC945(Q,R) o 2SD767
Q15,16,30	:2SC2590(Q,R,S)
Q17,18	:2SA1110(Q,R,S)
Q19,20	:2SA1103(O,Y)
Q21,22,31	:2SC2578(O,Y)
Q27	:2SC2003 2SD752

D5,6 :STV-4H  
 D7,8,11~14: 1S2076A  
 D9,10 :YZ-140  
 D15~18 :1N60  
 D20,21 :V06B  
 D22 :XZ-051  
 D23,24 :XZ-245  
 D25~28 :GP25D

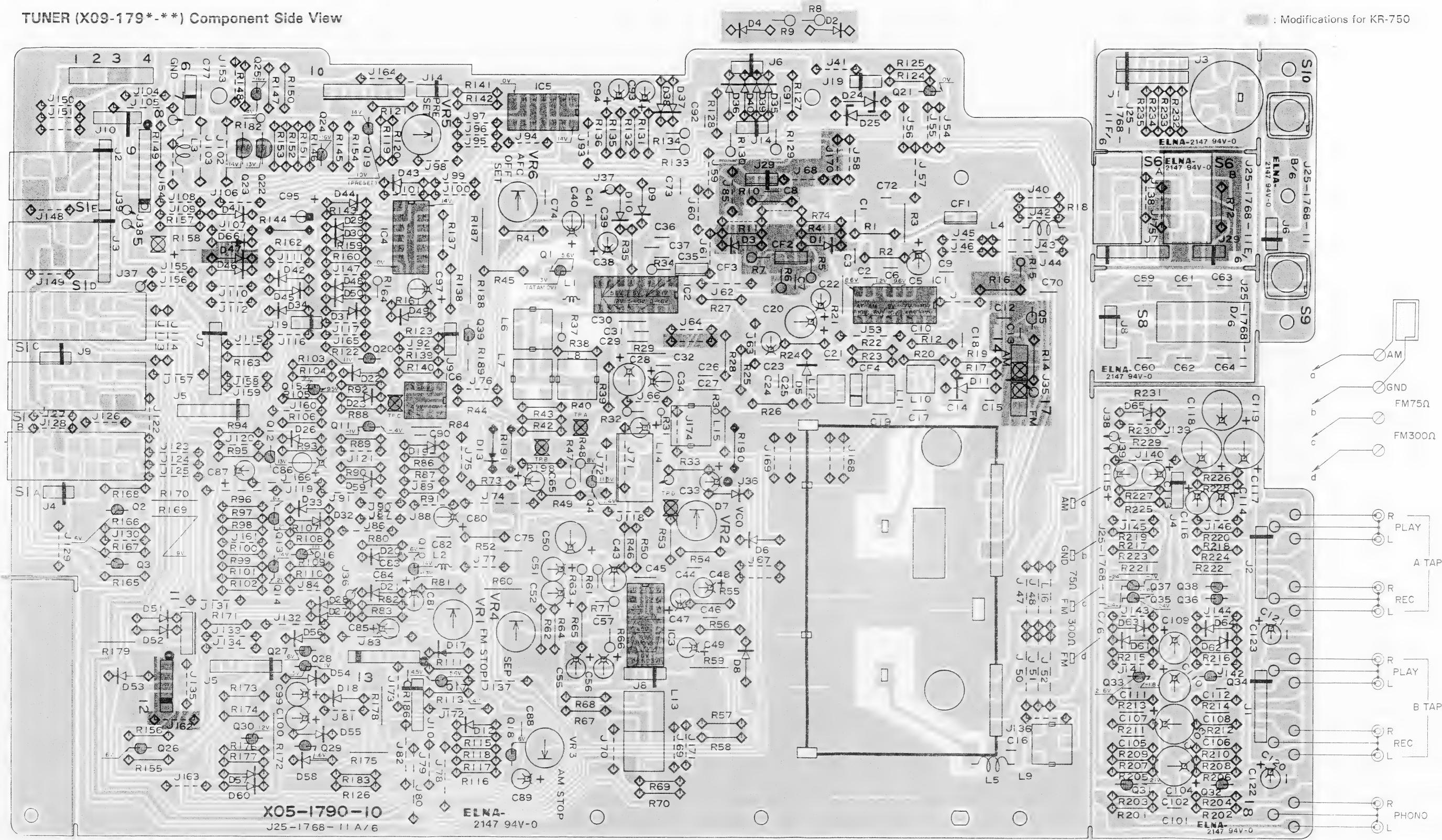
Q1,2 : 2SA733  
 Q3,4 : 2SC945  
 IC1 : AN6821  
 IC2 : SN74LS90N  
 IC3 : LC7258  
 D2~4 : 1S2076

\* Refer to the schematic diagram for the values of resistors and capacitors.

## PC BOARD

### TUNER (X09-179\*-\* \*) Component Side View

## Modifications for KR-750



Q1 :2SK163(N)  
 Q2,3,20,21,24 :2SK105(H,J)  
                   2SK163(L,M)  
                   2SK136(O,P)  
 Q4,5,11~14,18,19,26~30 :2SC945(Q,P)  
                   2SC828A(Q)

Q10 : 2SC1845(1)  
 Q15,16,25,37,38 : 2SA733A(1)  
 6 Q17,22 : 2SA564A(1)  
 Q23 : 2SC1735(1)  
 Q23 : 2SA850(1)

C3 : HA1196-01  
C4 : TC4069UBP or  
μPD4069C or  
MC14069UBCP  
C5 : TC4023BP or  
μPD4023C or  
MC14023BCP  
C6 : MC14056

\* Refer to

to the schematic

diagram for the  $\Delta$  function

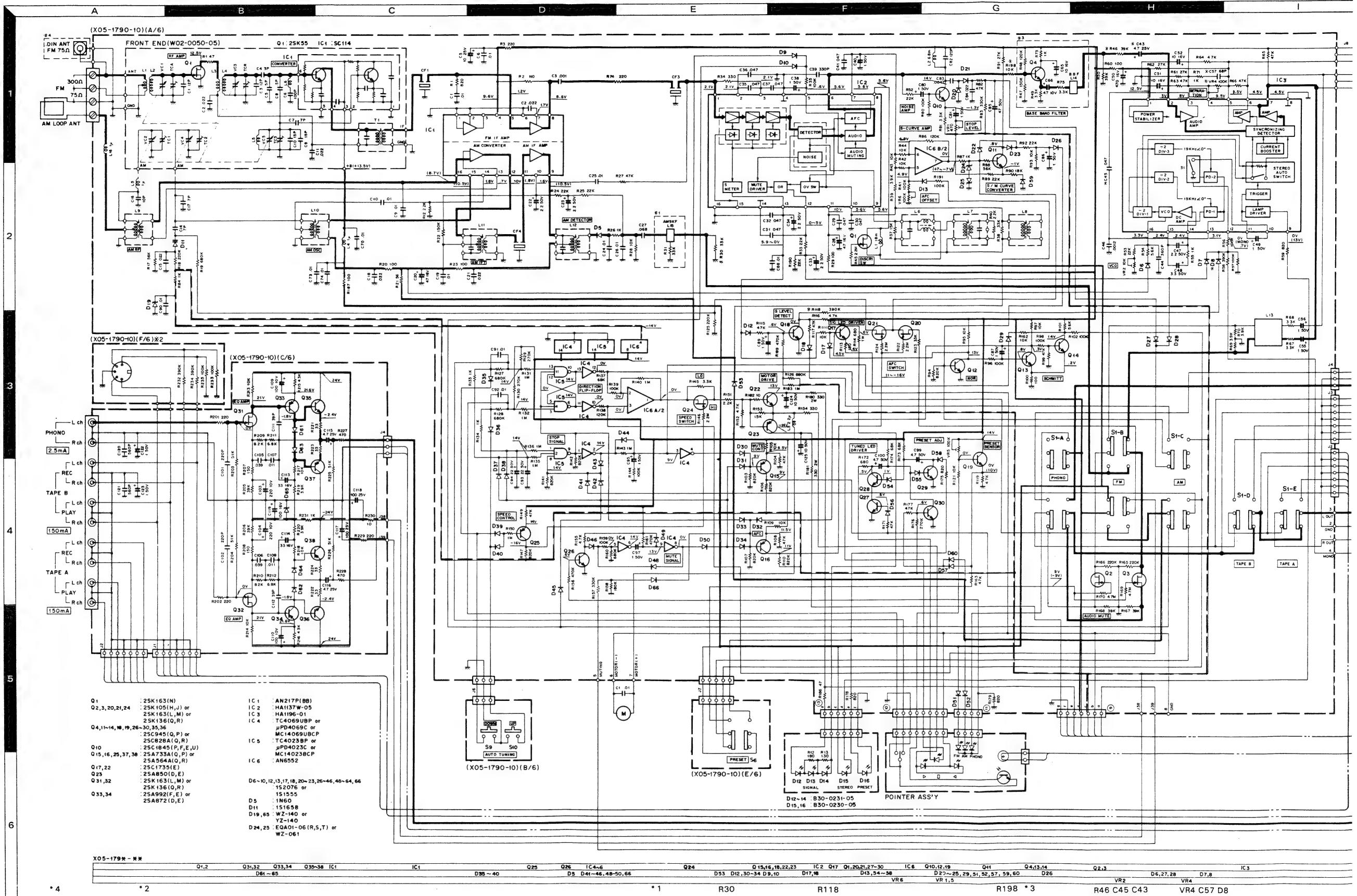
values of resisto

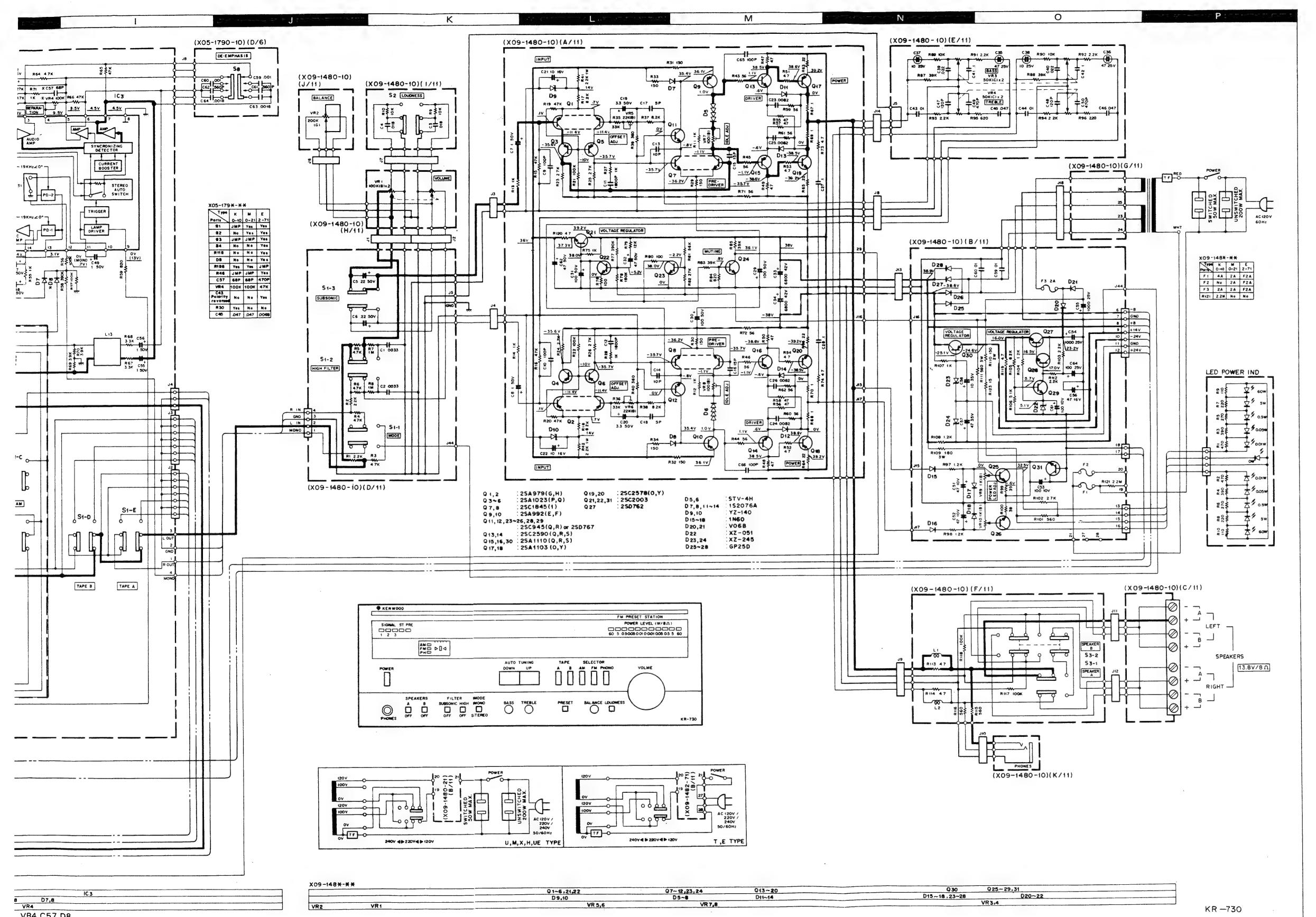
## Resistors and capacitors

\* Refer to the schematic diagram for the values of resistors and capacitors.



# STEREO RECEIVER





DC voltages are measured by a VOM with  $20 \text{ k}\Omega/\text{V}$  input impedance other than the auto tuning section where DC voltmeter were used.

## SPECIFICATIONS

### POWER AMPLIFIER SECTION

**Power Output**  
42 watts\* per channel minimum RMS, both channels driven at 8 ohms from 20 Hz to 20,000 Hz with no more than 0.03% total harmonic distortion.

**Total Harmonic Distortion** (20 Hz to 20 kHz from TAPE)  
rated power into 8 ohms 0.03%  
1 watt power into 8 ohms 0.008%

**Intermodulation Distortion** (60 Hz: 7 kHz = 4:1 SMPTE)  
rated power into 8 ohms 0.02%

### Transient Response

Rise Time 1.5  $\mu$ s

Slew Rate  $\pm 50 \text{ V}/\mu\text{s}$

Damping Factor 50 at 1 kHz, 8 ohms

**Input Sensitivity/Impedance**  
PHONO 2.5 mV/50 kohms

TAPE 150 mV/50 kohms

**Signal-to-Noise Ratio (A weighted)**  
PHONO 80 dB for 2.5 mV input

86 dB for 5.0 mV input

105 dB for 150 mV input

220 mV (RMS). THD 0.03%

**Frequency Response**  
PHONO RIAA Standard Curve

TAPE 20 Hz to 20,000 Hz  $\pm 0.4$  dB

5 Hz to 250 kHz  $-3$  dB

**Tone Control**  
Bass  $\pm 8$  dB at 100 Hz

Treble  $\pm 8$  dB at 10 kHz

Loudness Control (VOL.  $-30$  dB)

Subsonic Filter 18 Hz, 6 dB/oct

High Filter 5 kHz, 6 dB/oct

**Output Level/Impedance**  
TAPE REC Out (Pin) 150 mV/300 ohms

**FM TUNER SECTION**

Usable Sensitivity 10.3 dB (1.8  $\mu$ V)

50 dB Quieting Sensitivity 16.1 dB (3.5  $\mu$ V)

Mono 37.2 dB (40  $\mu$ V)

**Signal-to-Noise Ratio at 65 dB**

Mono 76 dB

Stereo 72 dB

**Total Harmonic Distortion at 1,000 Hz**

Mono 0.1%

Stereo 0.15%

**Frequency Response**

20 Hz to 15 kHz

$+0.5$  dB,  $-1.0$  dB

1.0 dB

**Capture Ratio** 5.2 dB

**Image Rejection Ratio** 78 dB

**Spurious Response Ratio** 85 dB

**IF Response Ratio** 52 dB at 400 kHz

**Alternate Channel Selectivity** 50 dB

**AM Suppression Ratio** 45 dB at 1,000 Hz

35 dB at 50 Hz to 10 kHz

4.6 dB

**Subcarrier Product Ratio** 300 ohms balanced and

75 ohms unbalanced

**FM Frequency Range** 88 MHz to 108 MHz

**AM TUNER SECTION**

Usable Sensitivity 15  $\mu$ V

Signal-to-Noise Ratio 50 dB

Image Rejection 50 dB

Selectivity 30 dB

**AUTO STOP SENSITIVITY**

FM 3  $\mu$ V

AM 22  $\mu$ V

**GENERAL**

**Power Consumption** 210W (8 ohms at rated power)

45W (No Signal)

**AC Outlets** Switched 1. Unswitched 1

**Dimensions** W 488 mm (19 7/32")

H 133 mm (5 1/4")

D 350 mm (13 25/32")

9.6 kg (21.2 lb)

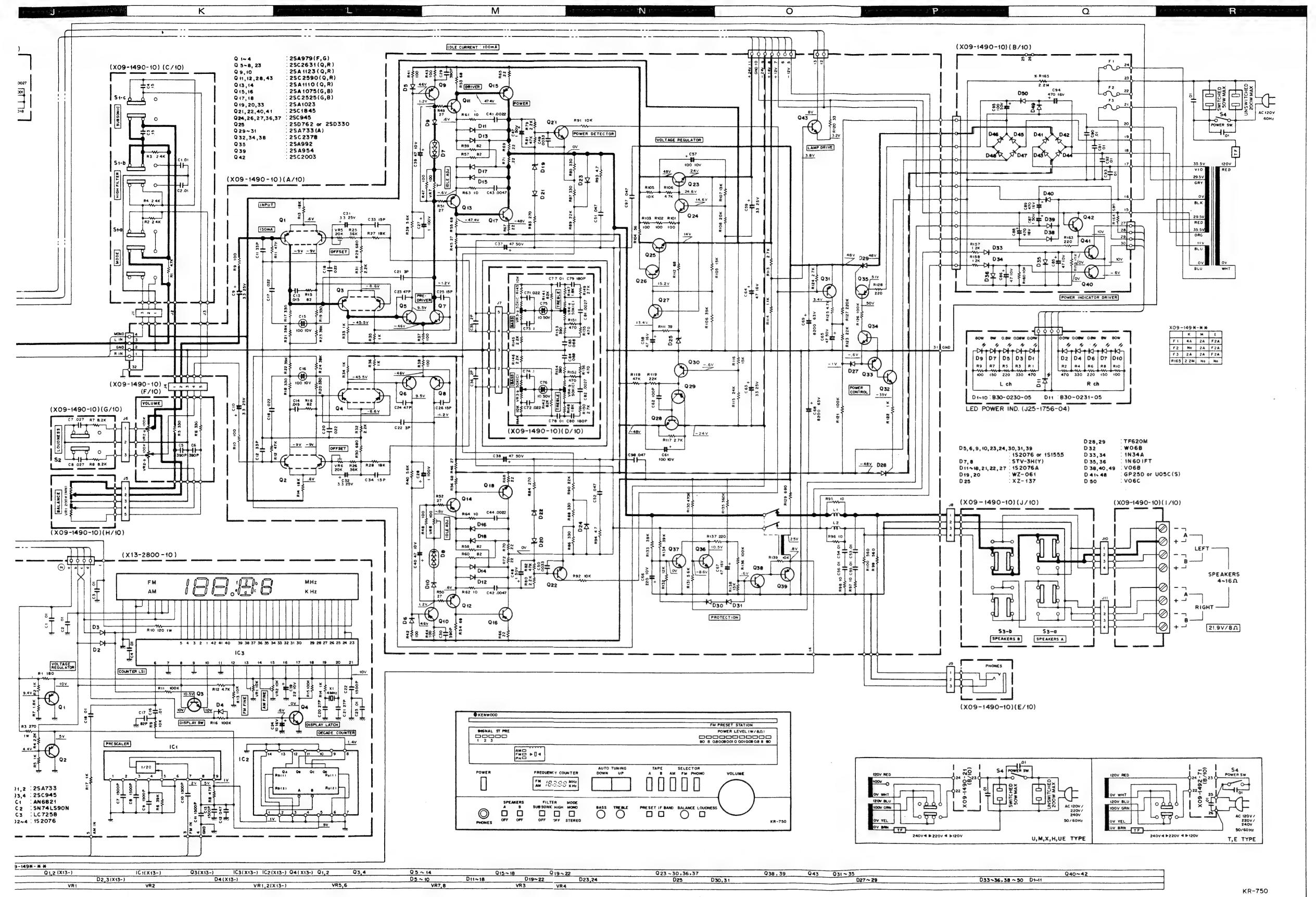
11.0 kg (24.3 lb)

Kenwood follows a policy of continuous advancements in development. For this reason specifications may be changed without notice.

Kenwood poursuit une politique de progrès constants en ce qui concerne le développement. Pour cette raison, les spécifications sont sujettes à modifications sans préavis.

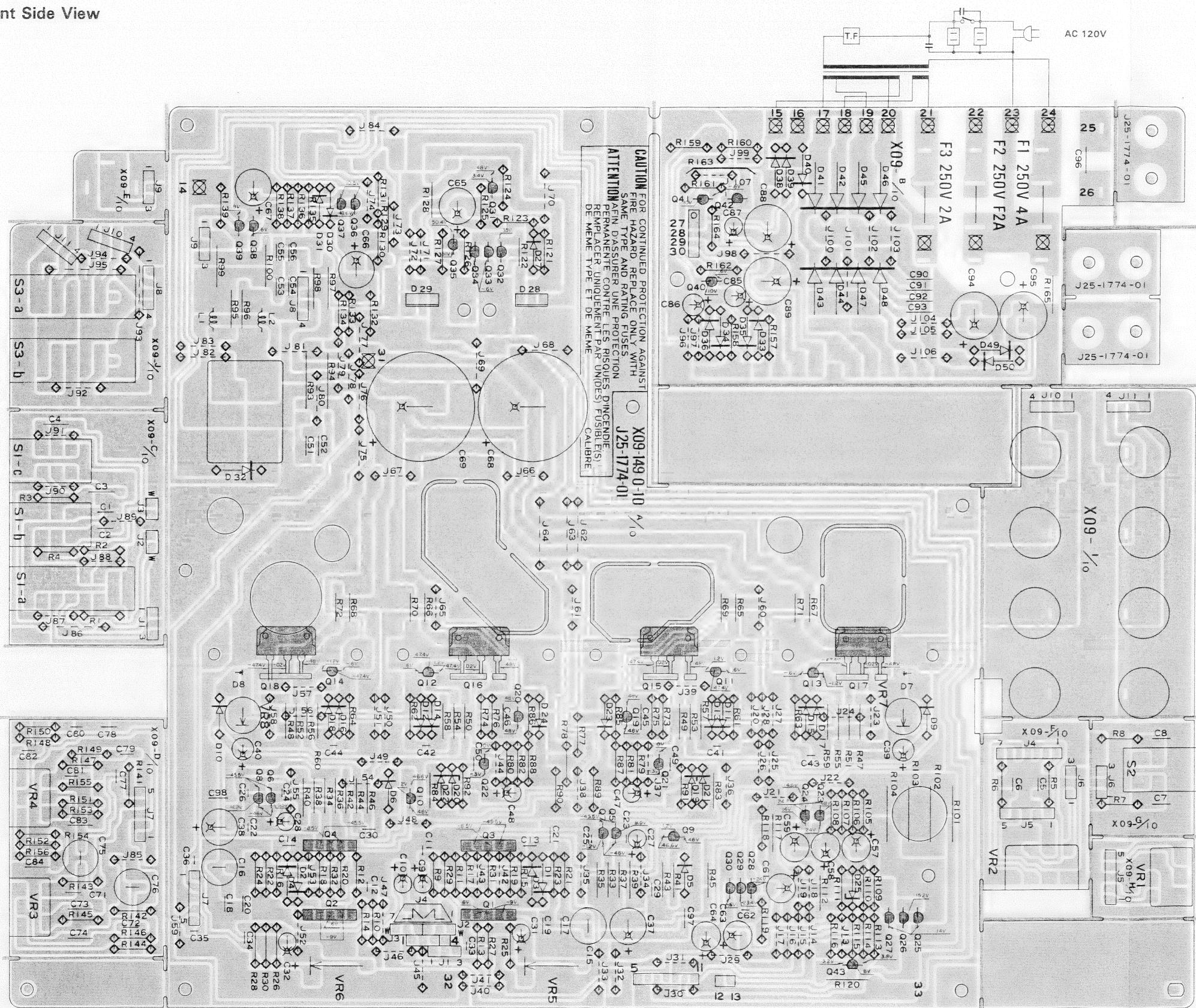
Kenwood strebt ständige Verbesserungen in der Entwicklung an. Daher bleiben Änderungen der technischen Daten jederzeit vorbehalten.





## PC BOARD

## AUDIO (X09-149\*-\*\*) Component Side View



\* Refer to the schematic diagram for the values of resistors and capacitors.

## PARTS LIST

## PARTS LIST

## INSTRUCTION FOR PARTS LIST

Ref. No.	Parts No.	Description	Re-marks
参照番号	部品番号	部品名／規格	備考
②	1 3A	-	MAIN CHASSIS ASS'Y
①	2 2A	-	FRONT CHASSIS
③	3 2A	-	FLUOR DISPLAY HOLDER
④	4 1A,1B	-	FRONT PANEL
⑤	5 1A	A20-1666-08	FRONT PANEL ASS'Y
PS3	S42-3201-08	PUSH SW.(SELECTOR) 111	③
RS1	S01-1204-08	ROTARY SW.(FUNC.) 105	④
RL1	S51-2204-08	RELAY FIG.104	①

① Exploded view drawing No.

② Position in exploded view.

③ Symbol of new parts

④ Area to which parts are shipped. Example: A20-1390-13 is the part No. of FRONT PANEL ASS'Y for the "K" type products (for U.S.A.). When this column is blank, it means that the same type of parts (same parts No.) are used for the products shipped to all areas.

⑤ Reference No. in schematic diagram.

⑥ Abbreviation of "ceramic capacitor"

All capacitors and resistors are listed using abbreviations.

Abbreviations

\* Abbreviations of capacitors (Parts No. with initial letter "C").

ELECTRO Electrolytic capacitor

LL-ELEC Low leak electrolytic capacitor

NP-ELEC Non-pole electrolytic capacitor

MICA Mica capacitor

POLYSTY Polystyrene capacitor

MYLAR Mylar capacitor

CERAMIC Ceramic capacitor

TANTAL Tantalum capacitor

MF Metallized film capacitor

MP Metallized paper capacitor

OIL Oil capacitor

The unit "UF" is used in lieu of "μF"

\* Abbreviations of resistors (Parts No. with initial letters "R").

RC Carbon composition resistor

RD Carbon film resistor

FL-PROOF RD Flame-proof carbon film resistor

RW Wire wound power resistor

FL-PROOF RS Flame-proof metal oxide film resistor

RN Metal film resistor

FUSE-RESIST Resistor with fuse function

2B Rated wattage 1/8W

2E Rated wattage 1/4W

2H Rated wattage 1/2W

3A Rated wattage 1W

3D Rated wattage 2W

3F Rated wattage 3W

3G Rated wattage 4W

3H Rated wattage 5W

All resistor values are indicated with the unit (Ω) omitted.

\* Abbreviations common to capacitors and resistors.

C ±0.25pF (Used for capacitors only)

D ±0.5pF (Used for capacitors only)

F ±1%

G ±2%

J ±5%

K ±10%

M ±20%

Z +80%, -20% (Used for capacitors only)

P +100%, -0% (Used for capacitors only)

Resistors RD (carbon composition resistors) are not listed in the parts list. For values, refer to the schematic diagram.

\* CODE's in

X05-179\*-\* X09-148\*-\* X09-149\*-\*

KR-730

K:X05-1790-10 K:X09-1480-10 K:X09-1490-10

M:X05-1790-21 P:X09-1481-01 M:X09-1490-21

E:X05-1792-71 M:X09-1480-21 E:X09-1492-71

KR-750 E:X09-1482-71

K:X05-1790-11

M:X05-1790-22

E:X05-1792-72

Ref. No.	Parts No.	Description	Re-marks
参照番号	部品番号	部品名／規格	備考
KR-730 UNIT			
1 1A	-	METALLIC FRAME	
2 1B	-	REAR PANEL	
3 1A	-	BOTTOM PLATE	
4 3A	-	ESCUOTHEON (VOLUME)	
5 3A	-	ESCUOTHEON (TUNING)	
6 3A	-	DRESS PLATE	
7 3A,3B	-	HOLDER (DIAL CALIB)	
8 3A	-	RAIL	
10 1A	A01-0382-03	METALLIC CABINET	*
11 3A	A20-1651-03	FRONT PANEL ASSY	K
11 3A	A20-1651-03	FRONT PANEL ASSY	PU
11 3A	A20-1651-03	FRONT PANEL ASSY	MH
11 3A	A20-1651-03	FRONT PANEL ASSY	XE
11 3A	A20-1651-03	FRONT PANEL ASSY	UE
11 3A	A20-1652-03	FRONT PANEL ASSY	T
12 2A	A50-0080-03	SIDE PLATE (L)	*
13 3B	A50-0081-03	SIDE PLATE (R)	*
INSTRUCTION MANUAL			
-	B46-0055-20	WARRANTY CARD	P
-	B46-0060-00	WARRANTY CARD	T
-	B46-0061-20	WARRANTY CARD	K
-	B46-0062-20	WARRANTY CARD	UH
-	B46-0062-20	WARRANTY CARD	UE
-	B46-0063-13	WARRANTY CARD	UH
-	B46-0063-13	WARRANTY CARD	UE
-	B46-0064-10	WARRANTY CARD	X
-	B50-3174-00	INSTRUCTION MANUAL	P
-	B50-3174-00	INSTRUCTION MANUAL	UM
-	B50-3174-00	INSTRUCTION MANUAL	HX
-	B50-3174-00	INSTRUCTION MANUAL	UE
-	B50-3174-00	INSTRUCTION MANUAL	UE
-	B50-3175-00	INSTRUCTION MANUAL	P
-	B50-3175-00	INSTRUCTION MANUAL	MX
-	B50-3176-00	INSTRUCTION MANUAL	T
-	B50-3177-00	INSTRUCTION MANUAL	E
-	B59-0018-00	SERVICE STATIONS' LIST	UH
-	B59-0018-00	SERVICE STATIONS' LIST	UE
15 3A	B10-0272-04	FRONT GLASS	*
16 3A	E20-0469-02	DIAL CALIBRATIONS	*
17 3A	B21-0044-05	DIAL POINTER ASSY	*
18 2A,3B	B30-0230-05	LED (RED:ST,PRESET,PWR)	
19 2A,3B	B30-0231-05	LED (GREEN:SIG,ZERO PWR)	
C1	C55-1710-38	CERAMIC 0.01UF	Z
20 1B	D15-0164-04	DIAL PULLEY	
21 3A,3B	D15-0172-04	PULLEY	
22 1B	D32-0082-04	STOPPER (SWITCH)	UM
22 1B	D32-0082-04	STOPPER (SWITCH)	HX
22 1B	D32-0082-04	STOPPER (SWITCH)	TE
22 1B	D32-0082-04	STOPPER (SWITCH)	UE
23 1B	E03-0017-05	AC OUTLET	KP
23 1B	E03-0031-05	AC OUTLET	UM
23 1B	E03-0031-05	AC OUTLET	HX
23 1B	E04-0004-05	FM RECEPTACLE	TE
25 1B	E30-0181-05	POWER CORD	KP
25 1B	E30-0459-05	POWER CORD	E
25 1B	E30-0545-05	POWER CORD	UM
25 1B	E30-0545-05	POWER CORD	H
25 1B	E30-0545-05	POWER CORD	UE
25 1B	E30-0587-05	POWER CORD	T

Ref. No.	Parts No.	Description	Re-marks
参照番号	部品番号	部品名／規格	備考
25 1B	E30-0649-05	POWER CORD	X
26 2B	G01-0045-24	COIL SPRING	
-	H01-3185-04	CARTON BOX	K
-	H01-3185-04	CARTON BOX	UM
-	H01-3185-04	CARTON BOX	HX
-	H01-3188-04	CARTON BOX	UE
-	H10-1556-02	POLYSTYRENE FIXTURE	E
-	H20-0416-04	COVER	KP
-	H20-0454-04	COVER	UH
-	H20-0454-04	COVER	XT
-	H20-0454-04	COVER	E
-	H20-0454-04	COVER	UE
-	H25-0078-04	BAG 235X315	UE
-	H25-0078-04	BAG 235X315	UE
27 1A	J02-0103-05	FOOT X4	
28 1A	J19-0564-05	HOLDER (ANTENNA)	
29 3B	J19-0565-04	LED HOLDER (POWER IND)	*
30 2A	J19-0566-04	LED HOLDER (SIG,ST,PSET)	KP
31 1B	J41-0034-05	BUSHING (POWER CORD)	
31 1B	J42-0084-05	BUSHING (POWER CORD)	UM
31 1B	J42-0084-05	BUSHING (POWER CORD)	HT
31 1B	J42-0084-05	BUSHING (POWER CORD)	E
32 3A,3B	K27-0130-04	KNCB (PWR,TAPE,SELECTOR)	*
33 3A,3B	K27-0131-04	KNOB (SP,FILTER,MODE)	*
34 3A	K29-0336-04	KNOB (AUTO TUNING)	*
35 3A	K29-0337-04	KNOB (VOLUME)	*
36 3A	K29-0339-04	RESET MARKER	*
37 3A,3B	K29-0348-04	KNOB (BASS, TREBLE)	
37 3A,3B	K29-0348-04	KNCB (BALANCE)	
38 1A	L01-2101-05	POWER TRANSFORMER	K
38 1A	L01-2106-05	POWER TRANSFORMER	T
38 1A	L01-2106-05	POWER TRANSFORMER	E
38 1A	L01-2107-05	POWER TRANSFORMER	

## PARTS LIST

Ref. No.	Parts No.	Description	Re-marks
参照番号	部品番号	部品名 / 規格	備考
C57	C52-1747-16	CERAMIC 470PF K	E
C57	C71-1768-06	CERAMIC 68PF K	KM
C59	C46-1710-25	MYLAR 0.001UF J	ME
C61	C47-1756-15	POLYSTY 560PF J	
C63	C46-1718-25	MYLAR 0.0018UF J	
C65	C24-1210-61	ELECTRO 10UF 16WV	E
C66	C24-1447-51	ELECTRO 4.7UF 25WV	E
C70	C55-1710-38	CERAMIC 0.01UF Z	
C73	C55-1710-38	CERAMIC 0.01UF Z	
C80	C24-1710-51	ELECTRO 1UF 50WV	
C82	C47-1712-15	POLYSTY 120PF J	
C83	C46-1747-25	MYLAR 0.0047UF J	
C84	C46-1722-35	MYLAR 0.022UF J	
C85	C24-1747-41	ELECTRO 0.47UF 50WV	
C86	C24-1710-51	ELECTRO 1UF 50WV	
C87	C25-1710-47	LL-ELEC 0.1UF 50WV	
C88	C55-1710-38	CERAMIC 0.01UF Z	
C89	C24-1710-51	ELECTRO 1UF 50WV	
C90	C55-1710-38	CERAMIC 0.01UF Z	
C91	C46-1710-35	MYLAR 0.01UF J	
C93	C25-1722-47	LL-ELEC 0.22UF 50WV	
C95	C24-1710-51	ELECTRO 1UF 50WV	
C97	C24-1710-51	ELECTRO 1UF 50WV	
C99	C24-1747-51	ELECTRO 4.7UF 50WV	
C101,102	C71-1722-15	CERAMIC 220PF J	
C103,104	C24-1022-71	ELECTRO 220UF 10WV	
C105,106	C46-1739-35	MYLAR 0.039UF J	
C107,108	C49-2011-34	POLYSTY 0.01UF G	
C109,110	C24-1010-71	ELECTRO 100UF 10WV	
C111,112	C71-1739-06	CERAMIC 39PF K	
C113,114	C24-1233-61	ELECTRO 33UF 16WV	
C115,116	C25-1447-57	LL-ELEC 4.7UF 25WV	
C117,118	C24-1410-71	ELECTRO 100UF 25WV	
C117,118	C24-1447-61	ELECTRO 47UF 25WV	
C119	C24-1210-71	ELECTRO 100UF 16WV	
C120,121	C52-1756-16	CERAMIC 560PF K	
C122,123	C24-1710-51	ELECTRO 1UF 50WV	
C124,125	C24-1710-61	ELECTRO 10UF 50WV	
C126	C55-1710-38	CERAMIC 0.01UF Z	
-	E40-0473-05	PIN CONNECTOR (4P)	
-	E40-0873-05	PIN CONNECTOR (8P)	
102 1B	E06-0513-05	DIN CONNECTOR	ME
103 1B	E13-0423-05	PHONO JACK (4P)	
104 1B	E13-0612-05	PHONO JACK (6P)	
105 1B	E20-0439-05	ANTENNA TERMINAL BOARD	
CF1 3	L72-0121-05	CERAMIC FILTER	KM
CF1 4	L79-0131-05	CERAMIC FILTER SET	
CF1 3	L79-0135-05	CERAMIC FILTER SET	E
CF4	L72-0069-05	CERAMIC FILTER	
L1	L40-1835-21	INDUCTOR	
L2	L40-6825-21	INDUCTOR	
L3	L40-2292-11	INDUCTOR	
L4	L40-1092-11	INDUCTOR	
L5	L40-1092-11	INDUCTOR	
L6	L30-0316-05	FM-IFT	
L7	L30-0317-05	FM-IFT	
L8	L30-0338-05	IFT	
L9	L31-0460-05	AM-RF COIL	
L10	L32-0186-05	AM-OSCILLATOR COIL	
L11	L30-0307-05	AM-IFT	
L12	L30-0283-05	AM-IFT	

Ref. No.	Parts No.	Description	Re-marks
参照番号	部品番号	部品名 / 規格	備考
L13	L79-0072-05	FILTER	E
L14	L79-0109-05	FILTER	KM
L15	L79-0073-05	FILTER	ME
L16	L40-1092-11	INDUCTOR	
R3	R43-1222-15	FL-PROOF RD220 J 2E	
R21	R43-1256-05	FL-PROOF RD56 J 2E	
R29	R43-1210-15	FL-PROOF RD100 J 2E	
R60	R43-1210-15	FL-PROOF RD100 J 2E	
R114	R47-5468-15	FL-PROOF RS680 J 3A	
R169,170	R41-5347-55	FL-PROOF RD4.7M J 2H	
R180	R47-5533-15	FL-PROOF RS330 J 3D	
R181	R47-5512-15	FL-PROOF RS120 J 3D	
R186	R43-5247-05	FL-PROOF RD47 J 2E	
R187	R43-1210-15	FL-PROOF RD100 J 2E	
R221,224	R43-1233-05	FL-PROOF RD33 J 2E	
R229,230	R43-1210-05	FL-PROOF RD10 J 2E	
R229	R43-1222-15	FL-PROOF RD220 J 2E	
R231	R43-1210-25	FL-PROOF RD1K J 2E	
VR1	R12-0065-05	TRIMMING POT. 470	
VR2	R12-3045-05	TRIMMING POT. 10K	
VR3	R12-8009-05	TRIMMING POT. 1M	
VR4	R12-3046-05	TRIMMING POT. 47K	E
VR4	R12-5030-05	TRIMMING POT. 100K	KM
VR5	R12-5030-05	TRIMMING POT. 100K	
S1	S42-5019-05	PUSH SW (SELECTOR)	*
S6	S40-2117-05	PUSH SW (PRESET)	
S6	S42-2036-05	PUSH SW (PSET, IF-BAND)	
S8	S31-2048-05	SLIDE SW (DE-EMPHASIS)	
S9	S40-1012-05	PUSH SW (AUTO TUNING)	
D1	V11-0271-05	1S2076	750
D5	V11-0051-05	1N60	
D6	V11-0271-05	1S2076	E
D8	V11-0271-05	1S2076	
D9	V11-0271-05	1S2076	
D11	V11-0192-05	1S1658	
D12	V11-0271-05	1S2076	
D17	V11-0271-05	1S2076	
D19	V11-0344-05	WZ-140	
D20	V11-0271-05	1S2076	
D24	V11-0431-05	EQA01-06	
D26	V11-0271-05	1S2076	
D47	V11-0271-05	1S2076	750
D48	V11-0271-05	1S2076	
D65	V11-0344-05	WZ-140	
D66	V11-0271-05	1S2076	
IC1	V30-0270-20	AN217P(BB)	
IC2	V30-0192-05	HA1137W-05	
IC3	V30-0193-05	HA1196-01	
IC4	V30-0297-20	TC4069UBP	
IC5	V30-0301-60	TC4023BP	
IC6	V30-0405-10	AN6552	
Q1	V09-0144-40	2SK163(N)	
Q2	V09-0127-40	2SK105(H,J)	
Q4	V03-0348-05	2SC945(Q,P)	E
Q10	V03-1845-00	2SC1845	
Q11	V03-0348-05	2SC945(Q,P)	
Q15	V01-0733-40	2SA733(A)(Q,P)	
Q17	V03-1735-10	2SC1735(E)	
Q18	V03-0348-05	2SC945(Q,P)	
F1	V03-1845-00	2SC1845	
Q11	V03-0348-05	2SC945(Q,P)	
Q15	V01-0733-40	2SA733(A)(Q,P)	
Q17	V03-1735-10	2SC1735(E)	
Q18	V03-0348-05	2SC945(Q,P)	
Q20	V09-0127-40	2SK105(H,J)	
Q22	V03-1735-10	2SC1735(E)	
Q23	V01-0173-05	2SA850	

Ref. No.	Parts No.	Description	Re-marks
参照番号	部品番号	部品名 / 規格	備考
Q24	V09-0127-40	2SK105(H,J)	
Q25	V01-0733-40	2SA733(A)(Q,P)	
Q26	V03-0348-05	2SC945(Q,P)	
Q31	V09-0144-60	2SK163(L,M)	
Q33	V01-0992-10	2SA992(F,E)	
106 1B	W02-0045-05	FM FRONT END KR-750 *	
106 1B	W02-0050-05	FM FRONT END KR-730 *	
201 3A	-	METALLIC FRAME	
202 2A	-	HEAT SINK	
-	c91-0023-05	CERAMIC 0.01UF AC250V M	
-	c91-0079-05	CERAMIC 0.01UF AC125V KE	
-	c91-0079-05	CERAMIC 0.01UF AC125V P	
C1	V2	C46-1733-25 MYLAR 0.0033UF J	
C3	V4	C46-1718-35 MYLAR 0.018UF J	
C5	V6	c81-6522-47 TANTAL 0.22UF 35WV	
C7	V8	c25-1710-57 LL-ELEC 1UF 50WV	
C9	V10	c71-1710-15 CERAMIC 100PF J	
C11	V12	c52-1747-16 CERAMIC 470PF K	
C13	V14	c71-1710-02 CERAMIC 10PF D	
C15	V16	c71-1715-06 CERAMIC 15PF K	
C17	V18	c71-1	

## PARTS LIST

## PARTS LIST

Ref. No.	Parts No.	Description	Re- marks
参照番号	部品番号	部品名 / 規格	備考
Q27	V04-0762-00	2SD762	
Q28, 29	V03-0270-05	2SC945(R, G)	
Q30	V01-1110-10	2SA1110(Q, R, S)	
Q31	V03-2003-00	2SC2003	
<b>FRONT END (W02-0050-00)</b>			
J01	V30-0345-10	SC114	
Q1	V09-0121-10	2SK55	
Q2	V09-0124-20	2SK61	

Ref. No.	Parts No.	Description	Re- marks
参照番号	部品番号	部品名 / 規格	備考
<b>KR-750 UNIT</b>			
1 3B	-	METALLIC FRAME	
2 1B	-	REAR PANEL	
3 1A	-	BOTTOM PLATE	
4 3A	-	ESCUCHON (VOLUME)	
5 3A	-	ESCUCHON (TUNING)	
6 3A	-	DRESS PLATE	
7 3A, 3B	-	HOLDER (DIAL CALIB)	
8 3A	-	RAIL	
10 1A	A01-0382-03	METALLIC CABINET	
11 3A	A20-1655-03	FRONT PANEL ASSY	*K
11 3A	A20-1655-03	FRONT PANEL ASSY	PU
11 3A	A20-1655-03	FRONT PANEL ASSY	MH
11 3A	A20-1655-03	FRONT PANEL ASSY	XE
11 3A	A20-1655-03	FRONT PANEL ASSY	UE
11 3A	A20-1656-03	FRONT PANEL ASSY	*T
11 3A	A20-1687-03	FRONT PANEL ASSY	*K
12 1A	A50-0080-03	SIDE PLATE (L)	
13 1A	A50-0081-03	SIDE PLATE (R)	
-	B46-0055-20	WARRANTY CARD	P
-	B46-0060-00	WARRANTY CARD	T
-	B46-0061-20	WARRANTY CARD	KK
-	B46-0062-20	WARRANTY CARD	UH
-	B46-0062-20	WARRANTY CARD	UE
-	B46-0063-13	WARRANTY CARD	UH
-	B46-0063-13	WARRANTY CARD	UE
-	B46-0064-20	WARRANTY CARD	X
-	B50-3178-00	INSTRUCTION MANUAL	*P
-	B50-3178-00	INSTRUCTION MANUAL	UM
-	B50-3178-00	INSTRUCTION MANUAL	HX
-	B50-3178-00	INSTRUCTION MANUAL	UE
-	B50-3179-00	INSTRUCTION MANUAL	*P
-	B50-3179-00	INSTRUCTION MANUAL	MX
-	B50-3179-00	INSTRUCTION MANUAL	*T
-	B50-3180-00	INSTRUCTION MANUAL	
-	B50-3181-00	INSTRUCTION MANUAL	*E
-	B50-3183-00	INSTRUCTION MANUAL	*K
-	B50-3209-00	INSTRUCTION MANUAL	*M
-	B50-3218-00	INSTRUCTION MANUAL	*K
-	B59-0018-00	SERVICE STATIONS' LIST	UH
14 3A	B59-0018-00	SERVICE STATIONS' LIST	UE
15 3A	B10-0264-04	FRONT GLASS (COUNTER)	*
15 3A	B10-0272-04	FRONT GLASS	
16 3A	B20-0474-02	DIAL CALIBRATION	*
17 3A	B21-0046-05	DIAL POINTER ASSY	
18 2A, 3B	B30-0230-05	LED (RED: ST, PRESET, PWR)	
19 2A, 3B	B30-0231-05	LED (GREEN: SIG, ZERO PWR)	
C1	C55-1710-38	CERAMIC 0.01UF	Z
20 2B	D15-0164-04	DIAL PULLEY	
21 3A, 3B	D15-0172-04	PULLEY	
22 1B	D32-0082-04	STOPPER (SWITCH)	UM
22 1B	D32-0082-04	STOPPER (SWITCH)	HX
22 1B	D32-0082-04	STOPPER (SWITCH)	TE
22 1B	D32-0082-04	STOPPER (SWITCH)	UE
23 1B	E03-0017-05	AC OUTLET	KP
23 1B	E03-0017-05	AC OUTLET	K
23 1B	E03-0031-05	AC OUTLET	UM
23 1B	E03-0031-05	AC OUTLET	HX
23 1B	E03-0031-05	AC OUTLET	UE
24 1B	E04-0004-05	FM RECEPTACLE	TE

Ref. No.	Parts No.	Description	Re- marks
参照番号	部品番号	部品名 / 規格	備考
<b>KR-750 UNIT</b>			
25 1B	E30-0181-05	POWER CORD	KP
25 1B	E30-0181-05	POWER CORD	KE
25 1B	E30-0459-05	POWER CORD	UM
25 1B	E30-0545-05	POWER CORD	H
25 1B	E30-0545-05	POWER CORD	UE
25 1B	E30-0545-05	POWER CORD	T
25 1B	E30-0587-05	POWER CORD	X
25 1B	E30-0649-05	POWER CORD	
26 2B	G01-0045-24	COIL SPRING	
26 1A	H01-3189-04	CARTON BOX	K
26 1A	H01-3189-04	CARTON BOX	HX
26 1A	H01-3189-04	CARTON BOX	UE
26 1A	H01-3189-04	CARTON BOX	*E
26 1A	H01-3192-04	CARTON BOX	UE
26 1A	H01-3193-04	CARTON BOX	M
26 1A	H10-1556-02	POLYSTYRENE FIXTURE	
26 1A	H20-0416-04	COVER	
26 1A	H20-0454-04	COVER	
26 1A	H25-0078-04	BAG 235X315	
27 1A	J02-0103-05	FOOT X4	
28 1A	J19-0564-05	HOLDER (ANTENNA)	
29 3B	J19-0565-03	LED HOLDER (POWER IND)	
30 2A	J19-0566-04	LED HOLDER (SIG, ST, PSET)	
31 1B	J41-0034-05	BUSHING (POWER CORD)	KP
31 1B	J41-0034-05	BUSHING (POWER CORD)	UM
31 1B	J42-0084-05	BUSHING (POWER CORD)	HT
31 1B	J42-0084-05	BUSHING (POWER CORD)	E
31 1B	J42-0084-05	BUSHING (POWER CORD)	UE
31 1B	J42-0085-05	BUSHING (POWER CORD)	X
32 3A, 3B	K27-0130-04	KNOB (PWR, TAPE, SELECTOR)	
33 3A, 3B	K27-0131-04	KNOB (SP, FILTER, MODE)	
33 3A, 3B	K27-0131-04	KNOB (PSET, LOUD, IF-BAND)	
34 3A	K29-0336-04	KNOB (AUTO TUNING)	
35 3A	K29-0337-04	KNOB (VOLUME)	
36 3A	K29-0339-04	PRESET MARKER	
37 3A, 3B	K29-0348-04	KNOB (BASS, TREBLE)	
37 3A, 3B	K29-0348-04	KNOB (BALANCE)	
38 2A	L01-2111-05	POWER TRANSFORMER	K
38 2A	L01-2111-05	POWER TRANSFORMER	T
38 2A	L01-2116-05	POWER TRANSFORMER	E
38 2A	L01-2116-05	POWER TRANSFORMER	*P
38 2A	L01-2117-05	POWER TRANSFORMER	
38 2A	L01-2118-05	POWER TRANSFORMER	*U
38 2A	L01-2118-05	POWER TRANSFORMER	MH
38 2A	L01-2118-05	POWER TRANSFORMER	X
38 2A	L01-2118-05	POWER TRANSFORMER	UE
39 1B	N08-0128-35	GND TERMINAL	
40 1B	N09-0100-14	SCREW	
41 2B	N09-0287-05	SCREW (M3X8; MOTOR ASSY)	
42 2B, 3A	N09-0293-05	SCREW (M2.6X14; PULLEY)	
43 1B	N09-0303-05	SCREW (M3X6; DIN CONN)	
43 1B	N09-0303-05	SCREW (M3X6; DIN CONN)	
43 1B	N09-0303-05	SCREW (M3X6; DIN CONN)	
44 1A	N09-0308-05	SCREW (M4X12; SIDE PLATE)	
45 1B	N09-0362-05	SCREW (M2.6X16)	
46 3A, 3B	N29-0035-05	RIVET	
47 1A, 1B	S31-2046-05	SLIDE SW (VOLTAGE SEL)	UM

**AUDIO AMP (X09-149\*--\*)**

201 3A	-	METALLIC FRAME
202 2A	-	HEAT SINK
C1 1/2	C46-1710-35	MYLAR 0.01UF
C3 1/4	C46-1715-46	MYLAR 0.15UF
C5 1/6	C52-1739-16	CERAMIC 390PF
C7 1/8	C46-1727-35	MYLAR 0.027UF
C9 1/10	C25-1433-57	LL-ELEC 3.3UF
C11 1/12	C71-1733-06	CERAMIC 33PF
C13 1/14	C46-1715-35	MYLAR 0.015UF
C15 1/16	C26-1010-77	NP-ELEC 100UF
C17 1/20	C46-1722-35	MYLAR 0.022UF
C21 1/22	C71-1703-01	CERAMIC 3PF
C23 1/24	C71-1747-05	CERAMIC 47PF
C25 1/26	C71-1715-06	CERAMIC 15PF
C27 1/28	C24-2010-51	ELECTRO 1UF
C29 1/30	C52-1739-16	CERAMIC 390PF
C31 1/32	C25-1433-57	LL-ELEC 3.3UF
C33 1/34	C71-1715-06	CERAMIC 15PF
C35 1/36	C71-1702-01	CERAMIC 2PF</td

## PARTS LIST

Ref. No.	Parts No.	Description	Re- marks
参照番号	部品番号	部品名／規格	備考
C43 ,44	C91-0116-05	CERAMIC 0.0047UF J	
C45 ,46	C91-0134-05	CERAMIC 0.1UF J	
C47 ,48	C24-1710-51	ELECTRO 1UF 50WV	
C49 ,50	C46-1733-25	MYLAR 0.0033UF J	
C51 ,52	C46-1747-35	MYLAR 0.047UF J	
C53 ,56	C46-1710-35	MYLAR 0.01UF J	
C57	C24-1010-71	ELECTRO 100UF 10WV	
C58	C24-1247-61	ELECTRO 47UF 16WV	
C59	C24-1433-61	ELECTRO 33UF 25WV	
C61	C24-1010-71	ELECTRO 100UF 10WV	
C62	C71-1710-15	CERAMIC 100PF J	
C63	C24-1433-61	ELECTRO 33UF 25WV	
C64	C24-1247-61	ELECTRO 47UF 16WV	
C65	C24-1747-61	ELECTRO 47UF 50WV	
C66	C24-1022-71	ELECTRO 220UF 10WV	
C67	C24-1247-61	LL-ELEC 47UF 16WV	
C68 ,69	C90-0475-05	ELECTRO 8200UF 50WV	
C71 ,72	C46-1722-35	MYLAR 0.022UF J	
C73 ,74	C46-1710-45	MYLAR 0.1UF J	
C75 ,76	C26-1710-67	NP-ELEC 10UF 50WV	
C77 ,78	C46-1710-35	MYLAR 0.01UF J	
C79 ,80	C71-1718-16	CERAMIC 180UF K	
C81 ,82	C46-1727-25	MYLAR 0.0027UF J	
C83 ,84	C46-1768-36	MYLAR 0.068UF K	
C85 ,86	C24-1047-61	ELECTRO 47UF 10WV	
C87	C24-1710-51	ELECTRO 1UF 50WV	
C88 ,89	C24-1247-71	ELECTRO 470UF 16WV	
C90 ,93	C54-2710-39	CERAMIC 0.01UF P	
C94	C24-1247-71	ELECTRO 470UF 16WV	
C95	C24-1710-71	ELECTRO 100UF 50WV	
C96	C91-0079-05	CERAMIC 0.01UF AC125V E	
C97 ,98	C46-1747-35	MYLAR 0.047UF J	
C99	C91-0023-05	CERAMIC 0.01UF AC250V M	
C99	C91-0079-05	CERAMIC 0.01UF AC125V KE	
203 2B	E11-0060-15	PHONE JACK	
204 1A	E20-0813-05	SPEAKER TERMINAL BOARD	
F1 -3	F05-2023-05	FUSE 2A 250V FIG.205	M
F1 -3	F05-2029-05	FUSE F2A 250V FIG.205	E
F1	F05-4021-05	FUSE 4A 250V FIG.205	K
F3	F05-2021-05	FUSE 2A 250V FIG.205	K
206 2A	J13-0055-05	FUSE HOLDER	
207 2B	J19-0506-05	PC BOARD SUPPORT	
L1 ,2	L39-0085-05	COIL	
208 2A	N09-0287-05	SCREW (M3X8)	
R33 ,36	R43-1210-25	FL-PROOF RD1K J 2E	
R37 ,38	R43-1210-15	FL-PROOF RD100 J 2E	
R39 ,40	R40-8356-26	FL-PROOF RC5.6K K 2H	
R41 ,44	R43-1210-15	FL-PROOF RD100 J 2E	
R45 ,46	R43-1227-05	FL-PROOF RD27 J 2E	
R47 ,48	R43-1210-15	FL-PROOF RD100 J 2E	
R49 ,52	R43-1227-05	FL-PROOF RD27 J 2E	
R53 ,56	R43-1268-05	FL-PROOF RD68 J 2E	
R57 ,60	R43-1282-05	FL-PROOF RD82 J 2E	
R65 ,72	R92-0166-05	FIXED RESISTOR	
R83 ,84	R43-1227-15	FL-PROOF RD270 J 2E	
R93 ,94	R47-5547-95	FL-PROOF RS4.7 J 3D	
R95 ,96	R40-8310-06	FL-PROOF RC10 K 2H	
R97 ,98	R47-5410-05	FL-PROOF RS10 J 3A	
R99 ,100	R47-5456-15	FL-PROOF RS560 J 3A	

Ref. No.	Parts No.	Description	Re- marks
参照番号	部品番号	部品名／規格	備考
R101-103	R47-5510-15	FL-PROOF RS100 J 3U	
R104	R47-5556-05	FL-PROOF RS56 J 3D	
R112	R43-1268-05	FL-PROOF RD68 J 2E	
R117	R40-8327-26	FL-PROOF RC2.7K K 2H	
R120	R47-5433-05	FL-PROOF RS33 J 3A	
R122	R47-5510-25	FL-PROOF RS1K J 3D	
R128	R40-8322-16	FL-PROOF RC220 K 2H	
R129	R47-5568-15	FL-PROOF RS680 J 3D	
R163	R47-5518-15	FL-PROOF RS220 J 3D	
R165	R92-0173-05	RC 2.2M M 2H K	
VR1	R06-5058-05	POTENTIOMETER 200K	
VR2	R06-5057-05	POTENTIOMETER 100KX2	
VR3	R06-4047-05	POTENTIOMETER 50KX2	
VR4	R06-4048-05	POTENTIOMETER 50KX2	
VR5 ,6	R12-3028-05	TRIMMING POT. 20K	
VR7 ,8	R12-0056-05	TRIMMING POT. 100	
-	S40-1022-05	PUSH SW (POWER)	
-	S40-1024-05	PUSH SW (POWER)	
-	S40-1025-05	PUSH SW (POWER)	
-	S51-2038-05	RELAY	
S1	S42-3043-05	PUSH SW (MODE, FILTER)	
S2	S40-2112-05	PUSH SW (LOUDNESS)	
S3	S42-2037-05	PUSH SW (SPEAKERS)	
D5 ,6	V11-0271-05	1S2076	
D7 ,8	V21-0013-05	STV-3H(Y)	
D9 ,10	V11-0271-05	1S2076	
D11 ,18	V11-0273-05	1S2076A	
D19 ,20	V11-0243-05	WZ-061	
D21 ,22	V11-0273-05	1S2076A	
D23 ,24	V11-0271-05	1S2076	
D25	V11-4161-76	XZ-137	
D27	V11-0273-05	1S2076A	
D30 ,31	V11-0271-05	1S2076	
D32	V11-0295-05	W06B	
D33 ,36	V11-0423-05	IN60	
D38	V11-0219-05	VO6B	
D39	V11-0271-05	1S2076	
D40	V11-0219-05	VO6B	
D41 ,48	V11-0465-05	GP250	
D49	V11-0219-05	VO6B	
D50	V11-0200-05	VO6C	
Q1 ,4	V01-0979-10	2SA979(F,G)	
Q5 ,8	V03-2631-10	2SC2631(Q,R)	
Q9 ,10	V01-1123-10	2SA1123(Q,R)	
Q11 ,12	V03-2590-10	2SC2590(Q,R)	
Q13 ,14	V01-1110-10	2SA1110(Q,R)	
Q15 ,16	V01-1075-30	2SA1075	
Q17 ,18	V03-2525-30	2SC2525	
Q19 ,20	V01-1023-00	2SA1023	
Q21 ,22	V03-1845-00	2SC1845	
Q23	V03-2631-10	2SC2631(Q,R)	
Q24	V03-0297-05	2SC945	
Q25	V04-0762-00	2SD762	
Q26 ,27	V03-0297-05	2SC945	
Q28	V03-2590-10	2SC2590(Q,R)	
Q28 ,29	V11-5105-40	TF620M	
Q29 ,31	V01-0733-90	2SA733(A)	
Q32	V03-2378-00	2SC2378	
Q33	V01-1023-00	2SA1023	
Q34	V03-2378-00	2SC2378	
Q35	V01-0992-00	2SA992	
Q36 ,37	V03-0297-05	2SC945	
Q38	V03-2378-00	2SC2378	
Q39	V01-0954-00	2SA954	
Q40 ,41	V03-1845-00	2SC1845	
Q42	V03-2003-00	2SC2003	
Q43	V03-2590-10	2SC2590(Q,R)	
COUNTER (X13-2800-10)			
C1 ,4	C55-1710-38	CERAMIC 0.01UF Z	
C7 ,11	C52-1715-26	CERAMIC 0.0015UF K	
C12	C55-1747-38	CERAMIC 0.047UF Z	
C13	C52-1715-26	CERAMIC 0.0015UF K	
C17	C71-1782-05	CERAMIC 82PF J	
C19	C24-1022-61	ELECTRO 22UF 10WV	
C20 ,21	C63-1727-05	CERAMIC 27PF J	
C22	C52-1715-26	CERAMIC 0.0015UF K	
C23	C55-1710-38	CERAMIC 0.01UF Z	
C24	C24-1210-61	ELECTRO 10UF 16WV	
-	E23-0047-04	TERMINAL	
X1	L77-0574-05	CRYSTAL RESONATOR	
R1	R43-1218-15	FL-PROOF RD180 J 2E	
R3	R47-5427-15	FL-PROOF RS270 J 3A	
R10	R47-5412-15	FL-PROOF RS120 J 3A	
VR1 ,2	R12-3045-05	TRIMMING POTENTIOMETER	
-	V40-4400-20	FIP7B8S (FLUO. DISPLAY)	
D2 ,4	V11-0271-05	1S2076	
IC1	V30-0409-10	AN6821	
IC2	V30-1005-26	SN74LS90N	
IC3	V30-0474-10	LC7258	
Q1 ,2	V01-0733-40	2SA733(A) (Q,P)	
Q3 ,4	V03-0297-05	2SC945	
FRONT END (W02-0045-00)			
IC1	V30-0345-10	SC114	
Q1	V09-0121-10	2SK55</td	